UK Technical Report for the Collection and Management of Fisheries Data in 2012

In compliance with Council Regulation (EC) 199/2008, Commission Regulation (EC) 665/2008 and Commission Decision 2010/93/EU

Marine Management Organisation, England

Agri-Food and Biosciences Institute, Northern Ireland

Marine Scotland, Marine Laboratory, Scotland

Centre for Environment, Fisheries & Aquaculture Science, England

Table of Contents

I. General framework

In accordance with Council Regulation (EC), 199/2008, and implementing Commission Regulation (EC) 665/2008 and Commission Decision 2010/93/EU, MS are required to submit a Technical Report detailing the activities carried out to meet the requirements of Council Regulation 1543/2000. This report provides the results of the programme undertaken by the United Kingdom during the period 1 January 2012 to 31 December 2012. In general terms the United Kingdom's 2012 activities were very similar to those of 2011, and there were no major changes in approach compared to previous years.

II. National data collection organisation

II.A National correspondent and participating institutes

The programme is co-ordinated by the Marine Management Organisation (MMO) under the National Correspondent Matthew Elliott, whose contact details are:

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Science co-ordinators from England and Wales (CEFAS and Environment Agency), Northern Ireland (AFBI) and Scotland (Marine Scotland) are responsible for delivery of UK fishery and survey data collected under the DCF. All three laboratories carry out shore-based and sea-based sampling of UK fleets operating in waters off each country, as well as conducting internationally-coordinated surveys. The Environment Agency has a role in working with CEFAS in carrying out activities related to eels in river systems in England and Wales. All are involved in the carrying out and participating in international stock assessment Working Groups and other meetings funded by the DCF. Information on aquaculture production and the economics of the aquaculture sector are provided by CEFAS whilst information on the processing sector and economic variables are provided by the UK Sea Fish Industry Authority (SEAFISH). Experts from both of these bodies participate in the relevant Working Groups and STECF meetings.

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The UK held its National Co-ordination meeting in February 2012. A note summarising the meeting, including the main outcomes and actions, is provided at Annex 1. The meeting was held primarily to co-ordinate activities between UK countries in relation to submission of the 2011 Technical Report and Financial Statements, and to review progress and future revisions to the 2011/13 National Programme. The meeting also considered upcoming meetings on the revision of the DCF post-2013.

Derogations

Under section II A the UK was requested to list derogations granted. This list was referenced in original AR but was omitted in error. To preserve page reference and numbering, the table of derogations is listed in Annex 3

II.B Regional and International coordination

II.B.1 Attendance of international meetings

All planned meetings were attended by UK representatives including economic meetings EWG 12-05, 12-11 and 12-13.

II.B.2 Follow-up of regional and international recommendations

All recommendations believed relevant to the UK are dealt with in the relevant sections and with those relating to the regional database, below.

Regional Database: Review of the Data Policy Document	
RCM NS&EA 2012 Recommendation	In respect of the development of the RDB and the protection of the data and the ownership of the data, a draft Data Policy Document has been established. The data policy document is based on the current situation but need to reviewed in all its aspects in order to be satisfactory for all MS. The data policy document is a “flexible” document and must be updated as the needs and the development of the RDB are changing. For example, a new data policy document will be prepared if there are changes to the exchange format (update is needed).)
Follow up actions needed	The National Correspondents (NC) from all MS are requested to read through the document, and sent all remarks and/or suggestions for improvements to the chair of the relevant RCM and to the RDB Steering Group (RDB-SG). Even if the NC has no specific remarks or suggestions, it is recommended to send a notification that the document has been read. Based on the input from the NCs, an updated version will be presented at the next NC Coordination meeting organized by the EC.
Responsible persons for follow-up actions	Chair RCM & RDB-SG, National Correspondents of all MS, EC

Timeframe	Before the 15th of November 2012

UK Response: The UK had no specific comments on the document.

III. Module of the evaluation of the fishing sector

III.A General description of the fishing sector

The UK fishing fleets in 2012 are described in the UK National Programme for 2011-13. The table below shows the reduction seen in the UK registered fishing fleet in recent years. More information on fleet changes and developments in fishing effort is provided in the annual report from the UK on efforts to achieve a sustainable balance between fishing capacity and fishing opportunities as required by Articles 13 and 14 of Commission Regulation (EC) No. 1013/2010 and Article 14 of Council Regulation (EC) No. 2371/2002. In addition to these reductions other factors are relevant:

- Only a certain proportion of the registered fleet is active at any one time
- Fishing quotas for key stocks of interest to the UK fleet have declined
- There has been a significant impact of effort regimes in reducing fishing effort exerted by UK vessels, particularly in the Cod Recovery Area, to reduce fishing activity.
- Similarly high fuel costs have worked to introduce a trend towards concentration of fishing activity into fewer, smaller length trips.

Together these factors have led to a significant reduction in the numbers of landings which however remain spread over the same number of landing sites as before. This has made the planning of sampling trips to sample fish at ports much more problematic and less efficient, in that it has become more difficult to ensure that visits by scientific staff to ports coincide with landings taking place that can be sampled.

Table 1 - Development of UK registered Fishing Fleet:

	Fleet as at 1st January:														
	2000	**2001**	**2002**	**2003**	**2004**	**2005**	**2006**	**2007**	**2008**	**2009**	**2010**	**2011**	**2012**	**Change over period** (-ve is reduction)	**% change over period** (-ve is reduction)
10m and under															
Number	5730	5591	5527	5589	5439	5404	5169	5208	5243	5081	5036	4986	5060	**-744**	**-12%**
Total Tonnage	18779	18910	19018	19156	18961	18895	18295	18411	18461	17923	17413	17219	17223	**-1560**	**-8%**
Total engine power	277610	278475	279697	284443	280079	280824	274170	277803	281893	274598	271222	269919	274170	**-7691**	**-1%**
Over 10m															
Number	2134	2060	2032	1835	1700	1636	1590	1555	1534	1506	1487	1436	1393	**-698**	**-35%**
Total Tonnage	248255	246152	245269	221878	210380	204458	199814	196678	194417	190048	190907	190296	185104	**-57959**	**-25%**
Total engine power	695590	697057	717595	658274	632923	620399	605541	588310	577806	564780	564540	554971	536118	**-140618**	**-23%**
Total Fleet															
Number	7864	7651	7559	7424	7139	7040	6759	6763	6777	6587	6523	6422	6453	**-1442**	**-18%**
Total Tonnage	267034	265062	264287	241033	229341	223353	218110	215089	212878	207971	208320	207515	202327	**-59519**	**-24%**
Total engine power	973199	975533	997292	942717	913003	901224	879711	866113	859699	839378	835762	824890	810288	**-148309**	**-17%**

Descriptions of UK fishing fleets provided in the National Programme for 2011-13 (submitted in October 2010) are updated below. Additional information can be found in the 2009 UK Technical Report which uses simple bar charts to illustrate the distribution of numbers of trips

between métiers included in the UK sampling programme for 2009, and changes between 2007 and 2009. The text below provides a general picture of fisheries the UK is involved in, with updated trip information for 2011 being given in Table III.C.3.

Areas I&II

(Bilateral agreements relating to sampling of fisheries in this area are in place with Denmark, Germany and Norway. See annex 3)

The most important UK fisheries in Areas I&II are bottom otter trawlers targeting cod, haddock and saithe, and midwater trawlers targeting herring. The majority of the catch is landed into non-UK ports in Norway, Denmark, Germany and the Netherlands.

North Sea (IV) and Eastern Channel (VIId)

(Bilateral agreements relating to sampling of fisheries in this area are in place with Belgium, Sweden and the Netherlands. See annex 3)

The most valuable UK towed-gear fisheries in the North Sea include bottom otter trawlers using 70mm+ mesh for *Nephrops*, bottom otter trawlers, pair trawlers, multirig otter trawlers and seine netters using 120mm+ mesh for demersal finfish such as haddock, cod, saithe, whiting, plaice and lemon sole, and midwater otter trawlers and pelagic pair trawl vessels targeting herring, mackerel and horse mackerel. A UK beam trawl fishery for sole in the southern North Sea, using 100mm+ meshes, lands mainly into the Netherlands whilst beam trawl vessels typically using 80mm mesh land into the UK. A small UK fishery for brown shrimp (*Crangon* species) takes place as a component of a larger international fishery in the southern North Sea using fine mesh beam trawls which also take a by catch of small demersal roundfish and flatfish. A variety of gillnet and trammel net fisheries occur, targeting sole, bass, cod, rays, anglerfish and other demersal species with mesh sizes according to species and area fished. The gillnet fisheries for sole occur in UK coastal areas of the southern North Sea. Pot fisheries for crabs and lobsters occur over a wide area of the UK North Sea and are the fourth most valuable metier in the North Sea & Eastern Channel region.

In the Eastern Channel (VIId) the main fisheries are small-scale fisheries working within the coastal zone (0 - 12 miles), and include many <10m vessels. Beam trawl fisheries target sole and take a plaice by-catch; trammel nets and otter trawls are also used to catch sole. Cod catches originate from bottom otter trawlers and inshore gill-netters. Whiting is also caught. During the winter there is a pelagic fishery for herring. There are also line fisheries for bass; a dredge fishery for scallops and clams and a pot fishery for shellfish including whelks and cuttlefish.

North Atlantic

(Bilateral agreements relating to sampling of fisheries in this area are in place with Belgium, the Netherlands and Ireland. A new bilateral agreement with Spain is still under discussion. See annex 3)

West of Scotland (VIa)

The most valuable UK fishery in ICES Area VI is for pelagic species using pelagic pair trawl or single boat midwater trawl for (1) herring - undertaken by UK, Denmark, Faeroe, Norway, Sweden, Germany and Ireland; (2) mackerel - undertaken by UK, Ireland, Netherlands, Germany, Faeroe, Poland, Denmark and Norway; (3) horse mackerel - occasionally UK vessels land into the UK. Other participants land abroad; (4) blue whiting - undertaken by UK, Netherlands, Denmark, Faeroe, Norway, Sweden, Germany and Ireland.

Inshore waters of this region support the bulk of UK's aquaculture industry, consisting predominantly of salmon and shellfish farms (mainly mussels). Inshore rocky areas support a widespread crustacean (lobster and crab) potting fishery - mainly fished by small <10m boats. The inshore potting fishery is the third most valuable UK fishery in Area VI.

The majority of vessels in the demersal fisheries are locally-based Scottish bottom trawlers, but Ireland, Northern Ireland, England, France, Spain, Norway, Poland and Germany also participate in these fisheries. The main trawl fisheries target gadoids (e.g. cod, haddock and whiting) plus anglerfish (*Lophius* spp.) and *Nephrops*. The roundfish fisheries produce a by-catch of saithe, megrim and lemon sole. There is a very small group of Scottish seiners targeting haddock. However most of these seine net vessels have converted to otter trawl – single or twin rig –some have moved to deeper waters, targeting anglerfish with a by-catch of megrim, ling and tusk (*Brosme brosme*). Further offshore, anglerfish, megrim and hake are also the subject of targeted fisheries.

The *Nephrops* fishery occurs within and outside the recognised Functional Units and is targeted by >10m and <10m vessels using 70 - 99 mm mesh size. There is also a sizeable static gear (pots) fishery within ICES area VIa.

Area VIb

At Rockall, there is a targeted fishery for haddock by Scottish and Irish trawlers. A few years ago some of the Scottish vessels diverted their activity towards deep-water fisheries including species such as orange roughy (*Hoplostethus atlanticus*), tusk (*Brosme brosme*), roundnose grenadier (*Coryphaenoides rupestris*) and black scabbard fish (*Aphanopus carbo*) but in 2011 most have stopped targeting deep water species. The main fleets targeting the deep water species remains French middle water vessels operating out of ports in Brittany and Spanish trawlers.

Spanish gill-netters and long-liners, many of them operating under the UK flag, work along the shelf edge targeting anglerfish, hake and ling but occasionally moving into deeper water to fish for deep water sharks. There are vessels targeting deep water red crab (*Chaceon affinis*) during summer months.

Area Vb (Faeroe)

The most valuable fisheries in the Faeroe region are blue whiting (*Micromesistius poutassou*), saithe (*pollachius virens*), Greenland halibut (*Reinhardtius hippoglossoides*), blue ling (*Molva dipterygia*), roundnose grenadier (*Coryphaenoides rupestris*) and cod (*Gadus morhua*). There were no Scottish vessels working in Faroese waters in 2011 and 2012 due to the ongoing dispute over Faroese and Icelandic mackerel catches. Likewise no Faroese vessels landed into Scotland.

Irish Sea (VIIa)

The largest and most valuable fishery in the Irish Sea is the *Nephrops* fleet using single and twin trawls with 70-99mm mesh. This fishery occurs predominantly in the muddy area west of the Isle of Man. The *Nephrops* fishery also takes by-catches of whiting, haddock, cod and plaice. Most whiting are discarded due to size and low market value. Some bottom otter trawl vessels target plaice and other small demersal fish using 70-99mm mesh during summer. The fleet of vessels using midwater otter trawls with 100-119mm mesh that seasonally target haddock, hake and cod is almost non-existent and only operate under strict cod by-catch provisions (only two boats in 2013). The Irish Sea beam trawl fishery for sole is currently of minor interest for UK vessels. Inshore, gillnets and tangle nets are used to catch cod, bass,

grey mullet, sole and plaice. The large estuaries bounding the eastern Irish Sea support pot fisheries for crab, lobster and whelk. There are also hydraulic dredge fisheries for razor fish and dredge fisheries for scallops and mussels. The main pelagic fishery in the Irish Sea is for herring; however, the number of vessels has declined to very low levels in recent years.

Southwest Ireland (VIIb,c,j,k)

The most valuable UK fishery in this area is midwater otter and pair trawlers catching mackerel, horse mackerel, blue whiting and herring. Much of the catch is landed abroad. An Anglo-Spanish fishery uses bottom otter trawls to target hake, anglerfish, megrim, rays, Nephrops and edible crabs, gillnets set mainly for anglerfish, and long lines set mainly for hake.

Western Channel (VIIe)

The most valuable fisheries in VIIe are beam trawling using 80-90mm mesh for demersal fish and cuttlefish, pot fishing for crabs and lobsters, dredging for scallops, and otter trawling using 70-99mm mesh.

Beam trawlers from Brixham and Plymouth target sole and cuttlefish in VIIe over the winter months. From March or April, many of the larger beam trawlers change to fishing on sole and plaice in the mid-Channel grounds some vessels may change to scallop dredges dependent on price of scallops and/or fuel. There is also a beam trawl fishery from Newlyn in VIIe-h targeting megrim and anglerfish with sole as a by-catch.

Bottom otter trawlers using 70-99mm mesh catch a diverse mix of species including lemon sole, plaice, sole, anglerfish, haddock, rays, John Dory, red mullet, bass, squid and cuttlefish. Squid are targeted in August-December, cuttlefish in September-November/December and lemon sole in December-April. Vessels targeting haddock in the western part of VIIe use 100mm mesh. A number of vessels can change over to scallop dredging if the availability/price of scallops is advantageous.

A variety of set gillnets using mesh sizes 100-219mm are deployed to catch spider crabs, pollack, anglerfish, ling, rays and other mixed demersal fish. Individual vessels may deploy a variety of gillnets during a trip. Tangle nets with mesh size 220mm+ are set for anglerfish, turbot, brill and rays.

There are also pelagic trawl fisheries for mackerel and sprat, and some ring-netting for sardines as well as line fisheries for mackerel, pollack and bass.

Celtic Sea (VIIf,g,h,)

The most valuable UK fisheries in VIIf,g&h are beam trawling for demersal fish, pot fishing for crabs, lobsters and whelks, gill and tangle netting for demersal species, otter trawling for demersal species, and line fishing for mackerel and other species.

The smaller (<24m) beam trawl vessels catch sole, plaice, megrim, anglerfish in the more coastal areas of VII f&h whilst the larger vessels target anglerfish, megrim and other benthic fish species in offshore waters. A seasonal fishery for sole and plaice takes place close inshore off the north Cornwall coast in spring. This fishery is interrupted by the Trevose cod closure in February and March.

Bottom otter trawlers using mostly 70-99mm and some 100mm+ nets target mixed demersal species including rays, bass, haddock, flatfish, squid and other species according to season. A trawl fishery for *Nephrops* takes place seasonally on the Smalls grounds in VIIg.

A small fleet of midwater otter trawl and pair trawl vessels target mackerel and horse

mackerel. The hand and pole fishery for finfish is mainly a fishery for mackerel, and also for bass and pollack.

As in VIIe, a variety of set gillnets in the 100-219mm mesh range are deployed near wrecks, reefs and other grounds to catch pollack, ling, hake, anglerfish, spider crabs, cod, rays and other mixed demersal fish. Larger mesh tangle nets (220mm +) are set for anglerfish, turbot and rays.

Inshore there are a wide variety of fisheries for shellfish including crabs - edible crab (*Cancer pagurus*), velvet swimming crab (*Necora puber*), crawfish (*Palinurus elephans*), lobsters (*Homarus gammarus*), cockles (*Cerastoderma edule*) Whelks, and razor clams (*Ensis* spp.). These tend to be pot or creel based fisheries, although hydraulic dredges are often used for collecting cockles and razor clams.

Three ICES rectangles covering cod spawning grounds in the Celtic Sea are closed to fishing during spring. This also impacts the Dover Sole fishery in the area.

Long distance fisheries

(The bilateral on sampling with the Netherlands has been amended to include the Anglo-Dutch vessel working in the CECAF area on small pelagics. See annex 3)

UK involvement in areas covered by RCM on Long Distant-Fisheries is limited. There is one Anglo-Dutch vessel targeting small pelagic species which lands to either the Netherlands or Canaries and limited Anglo-Spanish vessel activity targeting tunids which land outside the UK – the landings from the Anglo-Spanish vessels account for less than 2% of the EU quota by species.

III.B Economic Variables : Baltic Sea, North Sea & Eastern Arctic and North Atlantic

The work of collecting the data on the economic activity of the catch section is sub-contracted by UK fisheries administrations to the Sea Fish Industry Authority. The 2011 Economic Survey of the UK Fishing Fleet is the most recent UK-wide survey of the fishing fleet carried out by Seafish (N.B. The survey was carried out in 2012 to collect data on activity in 2011).

The research method that Seafish used to provide the estimates involved collecting primary data on vessel costs from vessel owners' financial accounts, combining this with landings and vessel characteristics data from the MMO to produce estimates of costs and profit for the key UK fleet segments. Vessel values were estimated using vessel balance sheets and information gathered in interviews with owners.

In order to collect data on vessel costs, Seafish staff conducted face-to-face interviews with vessel owners across the UK and asked them to supply a copy of their financial accounts. There is no legal requirement in the UK for owners of fishing vessels to submit financial accounts to the government or to Seafish. In order to generate and disseminate economic information and analysis relating to the UK fishing fleet, vessel owners must be persuaded to contribute their financial information voluntarily.

Seafish has undertaken this task on behalf of the industry since the 1970s and vessel owners have given wide support to the production of analyses and forecasts based on their data. The report could not be produced without the faith and confidence placed in us by the vessel owners who contribute their vessel accounts voluntarily.

Seafish used a variety of techniques in undertaking the survey, including:

- Systematic surveying of regions across the UK to ensure comprehensive coverage of the UK fleet;
- Owners of more than one vessel were approached separately to maximise the likelihood that their vessels would be included in the survey;
- Experienced Seafish staff from across the UK contributed to interviewing fishermen, using help from local contacts wherever possible;
- Seafish staff liaised with vessel accountants and agents to obtain information – some provided anonymous data for groups of vessels (financial information plus fleet segment);
- Seafish staff attended fishermen's workshops, exhibitions and meetings to build support for the project and interview fishermen.

At the end of the primary data collection phase, the dataset contained a mixture of quantitative and qualitative information taken from the completed survey forms and financial accounts. Financial accounts were obtained for 410 vessels representing a 9% sample rate of the active

UK fleet but a much higher percentage of UK fleet turnover. The sample rate for the large active fleet segments was much higher than the average for the active UK fleet.

Further details about the methodology adopted and the outcomes of the survey are provided in section III.B.3 and in the following report:

http://www.seafish.org/media/publications/2011_Economic_Survey_of_the_UK_Fishing_Fleet.pdf

III.B.1 Achievements: Results and Deviation from NP proposal

Table III.B.1 summarises, for each fleet segment, the achieved and planned sample numbers, together with related information about the population size and data collection scheme.

As in previous years, the demersal trawl/seine segment produced the highest number of returns, partly because this DCF segment includes almost the entire UK demersal and nephrops mobile fleets, which we split into more detailed Seafish segments. Sample coverage was also good for other large commercial segments.

The collection strategy for pelagic over 40m vessels was changed in 2012 and as a result we submitted economic performance data for the over 40m pelagic fleet for 2008-2011. In 2011 our sample covered approx 60% of the pelagic fleet. Sample rates were low for vessels using hooks, vessels using polyvalent passive gears only, drift and/or fixed netters and vessels using active and passive gears. This is as a result of the low activity of many of these segments.

III.B.2 Data quality: Results and deviation from NP proposal

The Coefficient of Variation (the ratio of the standard deviation to the mean - CV) for each estimate are provided in Table III.B.3. The CV was calculated for all 2011 parameters and also for 2008 and 2009 and 2010 data where possible. Response and coverage rate are also provided.

III.B.3 Follow-up of Regional and international recommendations

Recommendations from STECF- EWG 12-03 on the AER EU Fleet part 1

STECF recommends that two cases are analysed based on different levels of the theoretical maximum number of days at sea in order to illustrate how this influence the results.

STECF recommends that the maximum number of days at sea is set as:

1) the vessel using most days
2) the average of the top 10% most active vessels

For the selected fleets, STECF recommends that an explanation is given on whether any management limitations could potentially influence the maximum level. STECF recommends that

any analysis of overcapacity includes a clear description of how the results should and should not be interpreted, also clearly stating the methodology with all the various caveats and limitations.

STECF recommends that the number of chapters of special interest this year is considered once more by the chair and the Commission in light of the STECF observations and conclusions above. Having three chapters instead of normally only one implies increased work for the EWG, and this could potentially threaten finalisation of the report before the STECF summer plenary.

UK Response: We are currently awaiting Commission guidelines on the fleet capacity report which we expect will clarify what should be reported. For the 2013 data call, various alternative definitions were suggested by the JRC. Other recommendations here are seen as applicable to the Commission only.

2009-2011 UK DCF fleet economic survey and data reporting methodology

The UK estimates costs and incomes for the entire UK fleet based on landings data from the MMO log books and sample data collected from vessels financial accounts. The following methodology, developed in 2008, estimates the earnings, cost structures and profits of the UK fleet for the years 2005-2011. This method produces accurate and consistent results across years. Using alternative methods such as regression analysis to estimate individual costs can be problematic and result in cost structures that poorly reflect the sample data.

Costs are estimated based on the sample data collected from vessels financial accounts. Fuel cost and crew cost are the two key expenses therefore our estimation method gives these costs priority over others.

In some cases, vessel accounts need to be disaggregated so that costs can be allocated to the specific costs and earnings categories. Existing knowledge from previous survey work is used to determine the correct allocation of certain costs. Many partially completed survey returns are submitted, meaning that some variables have higher sample sizes than others. Quality checks on the survey data are undertaken to eliminate unlikely outliers and to assess the degree of sample bias present.
Once sample data is quality checked it is then used to estimate each of the required variables for the DCF for each vessel in the fleet. Values are then summed for to produce totals for each of the DCF fleet segments.

The methodologies used to derive final estimates from sample data for the DCF variables are as follows:

Energy costs

The method used to estimate fuel costs is based on estimated fuel consumption for each vessel:

Estimated annual Fuel cost = (average 2011 fuel price per litre) * (size and segment category daily consumption of fuel in litres) * (2011 Days At Sea)

Vessels in each Seafish segment were split into three size categories (small, medium and large) determined by their VCUs. For each of these size categories, a corresponding average daily consumption of fuel in litres was applied. The daily consumption figures are based on

evidence from sample data fuel costs from vessel accounts. Daily consumption for each vessel was then multiplied by each vessel's 2011 days at sea to give annual consumption in litres. Annual fuel use (litres) is then multiplied by the average fuel price in 2011 (excluding duty).

Personnel costs

Wages and salaries of crew (crew share) was calculated based on the segment's average crew share as a percentage of income. Crew share is a well defined expense in most vessel accounts and therefore this is an accurate method for estimation of this key cost.

Estimated annual Crew cost = (segment average of (crew share / fishing income)) * (vessel's 2011 fishing income)

Imputed value of labour is the estimated market value of any labour exerted on behalf of vessel businesses which is not charged as an expense to the business (Boncoeur, 2000).

For vessels over 10m we assume all vessels pay the skipper / owner via the crew share system, as part of fishing expenses. Therefore imputed value of labour is zero.

For vessels between 8m and 10m Seafish assumes that the top 25% (by revenues) of vessels pay skippers a crew share as part of the expenses of the business and that the lower 75% (by revenues) of vessels do not, but rather pay "owner's drawings" from the profits. Therefore, for the lower 75% of vessels in this size category, there is a positive imputed value of labour. We know that many smaller vessels operate on a part-time basis, therefore it is not appropriate to assume an average full-time wage for all owner-skippers of these vessels. Instead, we estimate the market value of a skipper's full-time labour as £25,000. For vessels with profit less than or equal to £25,000, we assume that 100% of profit is the imputed value of unpaid labour. If profit is over £25,000, we assume we assume £25,000 as the imputed value of labour. The remainder of the profits can be considered as return on investment or return on management skill (Boncoeur, 2000).

For vessels less than 8m, we assume that skipper's wages are not included in fishing expenses as part of the crew share, but in every case, are taken from the profits. Therefore, each vessel in this segment must have an imputed value of labour. For vessels with profit less than or equal to £25,000, we assume that 100% of profit is the imputed value of unpaid labour. If profit is over £25,000, we assume £25,000 as the imputed value of labour.

Other Operational Costs

Variable costs (fishing expenses): Given that sample sizes vary for individual fishing expenses (shore labour, ice, boxes etc) other than fuel costs and crew share, we adopted a top down approach to calculating fishing expenses which constrained the total value of fishing expenses to the average expenses as a proportion of fishing income of the segment and then subsequently adjusted for each vessel's individual fuel cost and crew share estimate as outlined above. The constrained total cost value was then split among key fishing expenses (commissions, harbour dues, subsidies and levies, shore labour, boxes, ice, crew travel, food stores, quota leasing, days purchased, other fishing expenses) using adjusted shares of each cost over total costs, based on sample average proportions.

Non-variable costs (vessel expenses): Were estimated based on sample data. The average non-variable costs structure as a proportion of earnings for the sample vessels in each segment was applied to non-sample vessels.

Lease / rental payment for quota or other fishing rights: Estimated based on sample of quota leasing and days at sea purchases data from financial accounts. The average costs structure as a proportion of earnings for the sample vessels in each segment was applied to non-sample vessels.

Repair and maintenance costs
Repair and maintenance costs were estimated based on the sample data from financial accounts. The average costs structure as a proportion of earnings for the sample vessels in each segment was applied to non-sample vessels.

Income
Gross Value of landings - for each active vessel in the UK fleet this landings value was provided by the MMO.
Income from leasing out quota or other fishing rights – Estimated based on sample of quota leasing and days at sea purchases data from financial accounts. The average costs structure as a proportion of earnings for the sample vessels in each segment was applied to non-sample vessels.

Direct subsidies – based on the 2011 fuel duty rate of 11.14p per litre, the direct subsidy was estimated for each DCF segment based on total litres consumed. Data on other types of direct subsidies are not available.

Other income - was calculated as a percentage of Fishing Income using sample information (sample average share).

Capital costs and value

Annual Depreciation: Seafish used the methodologies for annual depreciation as given in the report of the study N° FISH/2005/03.

Value of physical capital: depreciated replacement value:
Seafish used the methodologies for calculation of capital value as given in the report of the study N° FISH/2005/03 on the evaluation of the capital value. The sample data from surveys and vessel accounts provided information on the replacement value for the sample fishing vessels. This sample data was then applied at a DCF segment and length-class level (where possible) to the entire fleet based on a value per vessel capacity unit (VCU) to estimate physical capital values.

Value of physical capital: depreciated historical value:
This was not calculated in 2012 as it was not requested by the Commission.

Value of quota and other fishing rights:
In order to estimate the total value of fishing rights we took into account the value of quota (Fixed Quota Allocation Units attached to vessel licences and entitlements - FQAs) and licences. The method adopted for the calculations was as follows:

FQAs:

1. Obtain the total value of landings by all UK vessels for quota species only and by DCF fleet segment for each year 2008-2011

2. Obtain the total UK FQA for each stock / species and by fleet segment (note that a significant amount of FQA sits on dummy licences) for each year 2008-2011

3. Divide the total UK value of landings for each species by the total UK FQA for each species to give £ per FQA for each species (UK level) for each year 2008-2011

4. Multiply the £ per FQA for each species by the FQA for each species at fleet segment level to give an estimate of the FQAs held by vessels in each fleet segment 2008-2011

5. For each fleet segment, calculate the net profit margin for the years 2008-2011

6. Multiply the profit margin for each fleet segment by the estimated FQA value for each fleet segment 2008-2011 to obtain an estimate of net profit margin on the value of quota landings for each fleet segment 2008-2011 (big caveats here)

7. For each year, calculate the Net Present Value (NPV) of estimated future returns from the calculated net profit margin on the value of quota landings for each fleet segment.

Licences:

1. From 2010 and 2011 Seafish fleet surveys we obtained a sample of approx. 125 estimates of vessel licence values.

2. For each vessel in the population (and the sample), we identify licence category i.e. all combinations of A,B,C with and without shellfish and or scallop entitlement

3. For each vessel with an estimated licence value from our sample, we calculate licence value per VCU and categorise them by licence combination type

4. We then apply the estimate licence value per VCU for each licence combination from our sample to the vessel population, giving total value of licences at fleet segment and at UK level.

Investments

Investments in physical capital was based on sample data. The average investment as a proportion of earnings for the sample vessels in each segment was applied to non-sample vessels.

Financial position

The debt to asset ratio was based on sample data from the balance sheets collected by Seafish. The average debt to asset ratio for the sample vessels in each segment was used.

Employment

The estimation of employment is based on survey data collected from vessel owners around the UK ports. This provides details on the number of engaged crew both full-time and part-time. This sample information is then used to run a robust regression to estimate employment for each individual vessel based on the physical characteristics of the individual vessel and the vessel's level of activity. The regression and estimations are done at a Seafish segment level. Once total engaged crew has been estimated for all vessels in the UK fleet, FTE jobs can be estimated based on the national and harmonised definitions. The methodology for calculation of FTE was in accordance with the Study FISH/2005/14 and amendments made by SGECA 07-01 report (15-19 January 2007, Salerno).

III.B.4 Actions to avoid shortfalls

For segments with very large vessel numbers and therefore low sample rates, Seafish attempted to gain enough sets of vessel accounts to enable reasonably reliable estimates of costs and profits given that fishing income, days at sea and vessel characteristics are available for every vessel in the segment.

III.C Metier-related variables

Development of new sampling schemes in Scotland and England in the period 2010 to 2012

Following the recommendations of WKPRECISE, WKMERGE and PGCCDBS 2009, and PGCCDBS 2010, new sampling schemes for demersal and pelagic sampling were set up by Marine Scotland and Cefas in 2010 and fully implemented from 2011 onwards. The schemes use area-based list frames of ports for shore based sampling and vessel list frames for at-sea sampling. Cefas took over responsibility for port sampling in England from the Marine and Fisheries Agency (MFA) in 2010, which provided an opportunity to redesign the sampling schemes.

Shore-based sampling of landings in Scotland is now fully based on the systematic coverage of selected ports, visits being randomised over weeks within each quarter, and the selection of vessels on any particular port visit is a random draw from those present on the day. The design of the scheme in England is broadly similar, with ports in each sampling frame stratified by their total landings. Selection of vessels for at-sea sampling in Scotland is based on a prioritised list of vessels which is randomised prior to the selection for each trip. A similar approach has been adopted in England since the commencement of the DCF. Sampling levels have to be sufficient within each stratum to allow precision levels to be calculated.

The adoption of probability based sampling should overcome many of the known biases that would be inherent in so-called "quota sampling" and is the best way to provide representative

and unbiased data for the various fisheries active during the year. An important consequence of the move away from quota sampling is that the achieved sampling of Level-6 metiers should more closely reflect their relative occurrence in the fleet activities in the current sampling year (within the range of variability due to sample selection variance) rather than in the earlier baseline years.

Whilst the theory behind statistically-sound fishery sampling is well established, the practical implementation faced many logistical difficulties requiring a significant learning and development phase during which shortcomings in sampling emerged. The lessons learned in 2010 and 2011 were favourably reviewed in the ICES Workshop on Practical Implementation of Statistically-sound Catch Sampling Programmes (WKPICS) in November 2011. In both Scotland and England, the design and implementation of the new schemes and the allocation of staffing levels in the second half of 2010 through to 2011 endeavoured to ensure representative coverage of the range and diversity of the various fisheries. The scheme continued in 2012. This is discussed further under shortcomings.

III.C.1 Achievements: Results and deviation from NP proposal

Achieved number of trips sampled by frame and metier

UK sampling achievements by sampling frame are given in Table III.C.4, and are summarised in the text table below:

Text table: UK sampling achievements in the North Sea and VIId in 2012 by sampling frame (S = Vessels operating from Scotland; E = Vessels operating from England)

Sampling frame code	Sampling frame (fishing activities)	Sampling strategy	Average total no. of trips in the reference years	Total No. of trips during the Sampling year	Planned total no. trips to be sampled by MS (P)	Achieved number of trips (A)	% achieved number of trips ----- A/P*100
S1	Demersal finfish	Concurrent at the market & Market stock specific sampling	4008	4107	**290**	**413**	**142%**
S2	Demersal finfish	Concurrent-at-sea	4008	4107	26	50	192%
S1	Pelagic finfish	Concurrent at the market	2011	110	**45**	**61**	**136%**
S3	Pelagic finfish	Concurrent-at-sea	2011	110	0	0	-
S1	Shellfish	Market stock specific	28737	21119	**211**	**304**	**144%**
S4	Shellfish	Concurrent-at-sea	28737	21119	**13**	**29**	**221%**
E1	Demersal trawlers, netters + liners	Concurrent at the market & stock specific	29229	31310	540	466	86%
E2	Demersal trawlers, netters + liners	Concurrent-at-sea	29229	31310	87	83	95%
E5	Beam trawlers	Concurrent at the market & stock specific	1981	1872	8	3	38%
E2	Beam trawlers	Concurrent-at-sea	1981	1872	15	5	33%
E6	Mollusc dredgers	Concurrent at the market & stock specific	2690	331	14	0	0%
E2	Mollusc dredgers	Concurrent-at-sea	2690	331	12	7	58%
E4	Shellfish pot & trap vessels	Concurrent at the market & stock specific	11058	27720	60	224	373%
	Totals				**1321**	**1645**	**125%**

The overall number of trips sampled across the frames was very close to the planned numbers although the distribution of sampling achievement between frames varied from planned numbers.

Table III_C_3 lists the expected and achieved sampling of trips by Level-6 metier, for concurrent sampling either at sea or on shore, and for additional stock-based sampling for length compositions. For consistency with the NP, the table shows sampling for individual UK countries.

Regarding Table III.C.3, the red-formatted data rows comprise metiers that were sampled but were not included in the National Proposal. Reviewers and the Commission should already be aware that sampling in 2011 and 2012 took place on the basis of probability-based sampling

within clearly defined sampling frames rather than using a quota sampling system based on targeted numbers of metier-based samples. This reflects the ‘re-interpretation’ of the DCF that occurred the mid-term of its current seven year programme as a result of the series of ICES workshops: WKACCU, WKPRECISE and WKMERGE. Using probability-based sampling within defined sampling frames means landings and vessels may well be sampled even though they did not appear in the National Proposal. It is a consequence of using a more statistically sound sampling scheme and is fully in line with developments and guidance coming from the Regional Coordination Meetings.

A summary of expected and achieved sampling by Level 6 metiers at the UK (combined) level is given in the text table on the following page.

Text table: UK expected and achieved numbers of fishing trips sampled in the North Sea and eastern Arctic in 2012 for (a) concurrent and (b) market stock specific length compositions. (c) gives the numbers of sampling trips at sea, which is a subset of the trips in (a).

IV, VIId	a) Concurrent market and at sea sampling		b) Stock based market sampling		c) Concurrent at-sea sampling (including discards)	
Metier	Expected	Achieved	Expected	Achieved	Expected	Achieved
DRB_MOL_0_0_0	26	7	52	67	12	7
FPO_CRU_0_0_0	12	224	97	71	0	0
GNS_DEF_0_0_0	87	95	228	200	27	23
LHP_FIF_0_0_0	23	0	0	0	0	0
LLS_DEF_0_0_0	12	18	0	38	0	0
OTB_CEP_32-69_0_0	0	2	0	4	0	2
OTB_CRU_70-99_0_0	121	178	231	158	49	74
OTB_DEF_>=120_0_0	36	46	215	318	11	42
OTB_DEF_100-119_0_0	39	36	14	27	29	15
OTM_SPF_0_0_0	43	60	0	0	0	0
SSC_DEF_>=100-119_0_0	0	0	0	1	0	0
SSC_DEF_>=120_0_0	24	9	36	80	10	8
TBB_CRU_16-31_0_0	9	3	0	0	9	3
TBB_DEF_70-99_0_0	14	3	0	2	6	2
Total	446	721	873	1006	153	176

Concurrent sampling achievements: Overall for the UK, the number of concurrent (market plus at-sea sampling) sampling trips at sea was 162% of the expected number in the North Sea and Eastern Channel.

Stock based sampling achievements The achieved number of stock-specific samples by the UK was 115% of the planned number in the North Sea and eastern Channel. The individual species samples collected during concurrent sampling are offset against the stock based targets. If the concurrent sampling targets had been met, many of the remaining single-species samples for assessed stocks would have been derived from concurrent sampling.

At-sea (discard) sampling achievements: Overall for the UK, the achieved at-sea sampling was 115% of the target.

Explanation for deviations

Deviations for individual sampling frames are largely explained by changes in sampling towards more statistically robust schemes, specific issues concerning component metiers, and staffing problems encountered, as described below.

On-shore sampling: The additional time required for concurrent sampling on shore was a limiting factor in the sampling programmes before and after the introduction of the new port sampling schemes in Scotland and England. The substantial time window required to undertake concurrent sampling often results in not all required species in the landing being measured resulting in incomplete samples ie what was planned as concurrent sampling becomes market stock specific sampling. In the UK the large reduction in numbers of sampling staff caused by the government restrictions on staff recruitment and several offers of staff early severance schemes in 2011-12 led to a shortfall in trained staff to undertake sampling at sea or on land. The situation had substantially been addressed late in 2012 by training new staff.

At-sea (discard) sampling achievements: Within the UK there are a limited number of staff days that can be allocated to at sea sampling. The target number of trips to be sampled from the list of vessels in each stratum of the sampling frame takes into account the historic average trip length in the predominant metiers of these vessels. The random sampling scheme employed (see WKMERGE/WKPRECISE) resulted in some metiers having more or fewer trips sampled than was expected, as a result of the vessels in each stratum responding to seasonal changes in the fisheries and reduced quotas.

Reasons for deviations from expected sampling levels per metier are given below:

SSC_DEF: Was sampled less frequently as some vessels changed gear to OTB during the year.

DRB_MOL: There were difficulties in accessing vessels as most of the larger vessels move in from other areas as seasonal catches increase.

TBB_DEF_70-99: Under the random vessel selection scheme there is a reduced likelihood that a vessel working in VIId will be selected.

OTB_DEF_100-199: there were fewer vessels using this gear in 2012. Under the random sampling scheme there was a reduced likelihood that a vessel working in area IV would be selected.

OTM_SPF: Scotland cut the pelagic observer programme mid 2011 (although the summer herring fishery was sampled). This decision was based on several factors and the interaction between them, namely the impact of budget cuts, the continuing pelagic high-grading ban (Council Reg 43/2009 as amended) and the fact that close to 100% of Scottish or Irish pelagic landings are sampled at processors in Scotland. Significantly, the effect of the high-grading ban means that there may be an 'observer' effect when commercial vessels carry observers insofar as the behaviour of the master will be to operate within the legislation in which case there will be little difference between sampling landings at processors or catches at sea. Attention is drawn to the fact that Marine Scotland referred explicitly to this issue in its revision to the UK National Proposals for 2012 discussed by EWG 11-19 (Evaluation of 2012 NPs related to the DCF). EWG 11-19 explicitly recognised the potential of observer effects under the current and future legislation: "Bans on high-grading for certain species and areas have in recent years been included in the EU legislation. Such bans will affect the discard patterns in certain fisheries and is likely to increase/introduce an observer effect." In respect of the UK position, the EWG response was "EWG realizes that this probably will have an impact on the overall data quality but acknowledges the effort made by MS to minimise the impact on the achieved precision. EWG will be vigilant on end user feedback on this issue". In addition The European Commission did not request further explanation on this matter in its correspondence with the Member State when reflecting the conclusions of EWG 11-19 (Commission letter to UK of 29 March 2012 ref: MARE-C3/IG/AK Areas (2012)367272) and the UK considers this to be a post hoc acceptance of its decision taken in 2011 to modify its pelagic observer sampling programme. At the end of 2012 and into 2013 STECF and Marine Scotland were again in discussions, looking at the possibility of providing information from a different source. "ie, cctv coverage.

[Post 2012 report: Marine Scotland is currently seeking pelagic vessels to take part in a pilot study (pilot starts June 2013) on the effectiveness of cctv monitoring of catches".

The initiative will be discussed by STECF during their 2013 plenaries.]

Achieved Length sampling of catches, landings and discards by metier and species

Table III.C.6 provides a list of numbers sampled in 2012 for length by species, fishing ground, and fleet metier. In a number of cases, the samples could not be successfully linked with mesh size data. Only two stocks in the North Sea and Eastern Arctic with large planned sample numbers, had length measures below 90% of expected (see text table below)

Text table: Species with shortfalls in planned length sampling in 2012

Region	Fishing ground	Species	Species Group	Planned no. fish to be meas/aged at national level	% achievement
North Sea and Eastern Arctic	IV FU07	*Nephrops norvegicus*	1	30000	79%
North Sea and Eastern Arctic	VIId	*Pleuronectes platessa*	1	18000	87%

Explanations for deviations from expected length sampling:

Scotland:

Nephrops in FU7: Scottish *Nephrops* trawlers adopted a strategy of no discarding, mainly due to the very high prices at market. In previous years approx 4000 discarded animals were measured at sea. Also, due to the 'disappearance' of *Nephrops* from the grounds in FU7 mid-year, boats moved to ICES VIa for approximately 12 weeks. As a consequence landings were extremely depleted - down to 60% of 2011 levels

Pleuronectes platessa : Moving to the less quota driven sampling scheme and implementing fully random port sampling in accordance with WKMERGE + WKPRECISE resulted in fewer VIId samples as a whole.

Derogations

- The following derogations were granted:

Species	Region	RFMO	Area / Stock
Mallotus villosus	North Sea and Eastern Arctic	ICES	I,II
Crangon crangon	North Sea and Eastern Arctic	ICES	IV, VIId
Nephrops norvegicus	North Sea and Eastern Arctic	ICES	IV FU05
Nephrops norvegicus	North Sea and Eastern Arctic	ICES	IV FU10

III.C.2 Data quality: Results and deviation from NP proposal

Table III.C.5 provides precision estimates for achieved length/age sampling of fishery catches by species and fishing ground in 2012. Variances were calculated separately for the fleet-raised length compositions from sampling in England, Scotland and Northern Ireland, using COST tools or equivalent, and then combined to give the precision of the total UK estimates. CVs are presented for biological samples where there were adequate samples sizes and where the statistical models used were able to converge.

Sampling of landed fish achieved the DCF target of Level 2 precision (CV 12.5%) in the following stocks

IV, VIId	Lepidorhombus whiffiagonis
IV, VIId	Melanogrammus aeglefinus
IV, VIId	Merlangius merlangus
IV FU07	Nephrops norvegicus
IV FU08	Nephrops norvegicus
IV	Solea solea
IV, VIId, VI	Scomber scombrus
IV, VIId, VI	Scomber scombrus

Level 1 precision on sampling of landed fish (CV 20%) was achieved for the following stocks

IV, VIId	Gadus morhua
IV, VIId	Glyptocephalus cynoglossus
IV FU09	Nephrops norvegicus
IV	Pleuronectes platessa
IV, VIId	Pollachius virens

At-sea sampling achieved the DCF target of Level 2 precision (CV 12.5%) in the following stocks

IV, VIId	Aspitrigla cuculus
IV, VIId	Clupea harengus
IV, VIId	Eutrigla gurnardus
IV, VIId	Molva molva
IV, VIId	Platichthys flesus
IV	Pleuronectes platessa
IV, VIId	Scyliorhinus canicula
IV, VIId	Trisopterus spp
IV, VIId, VI	Scomber scombrus

Level 1 precision on at-sea sampling (CV 20%) was achieved for the following stocks

IV, VIId	Gadus morhua
IV, VIId	Limanda limanda
IV, VIId	Lophius piscatorious

The UK considers that the DCF precision targets are currently unachievable for many stocks at the Member State level, despite substantial and costly sampling programmes, and are appropriate only for the combined international data. In particular, achieving the discards target CVs across all stocks at the Member State level would require a very large increase in observer coverage which is currently not feasible in the UK. It must also be recognised that the requirement to sample additional species and the increased time needed to undertake concurrent sampling reduces the number of, in particular, G1 species that are measured.

III.C.3 Follow-up of Regional and international recommendations

The following RCM recommendations were relevant to the UK programme and supply of data in 2012:

RCMNS&EA_QA_01: Quality issues: use of FishFrame as regional database	
RCM NS&EA 2011 Recommendations	The RCM NS&EA recommends that that all MS respond to the data call in 2012 from the chair of RCM NS&EA and load their data to FishFrame or make it available in the FishFrame format. This data call will include Commercial Landings (CL), Commercial Effort (CE) and Commercial Samples (CS) records for 2010 and 2011.
Follow-up actions needed	MS to have responded to the data call. If issues persist then ICES to inform the chair of RCM NS&EA
Responsible persons for follow-up actions	All MS and chair of RCM NS&EA
Time frame (Deadline)	Data call in February 2012 and then deadline 4 months later

UK response: UK data were uploaded to the RDB

RCMNS&EA_M_01: Métier related variables: Routines for establishing bilateral agreements	
RCM NA 2011 Recommendation	1. MS should make sure that their landings abroad are included in their FishFrame upload allowing the RCM to analyse the possible needs for bilateral agreements. 2. The RCMs should perform an annual analysis on landings in foreign countries and conclude where bilateral agreements need to be made. MS should set up agreements, fixing the details of sampling, compilation and submission of data in each case when it is indicated by the RCM that a bilateral agreement is needed. Standard output algorithms to enable analysis of compiled data should be included in FishFrame. 3. MS should set up agreements, fixing the details of sampling, compilation and submission of data in each case it is concluded by the RCM that a bilateral agreement is needed.
Follow-up actions	MS to make sure landings abroad data are included into FishFrame
Responsible persons for follow-up actions	MS
Time frame	Annually. Deadline 1st of July 2012.

UK response: UK Landings abroad were uploaded to the RDB

Métier variables: Review of RCM Derogations	
RCM NS&EA 2012 Recommendation	RCM NS&EA 2012 recommends to review the summaries on the derogations reached during RCM NS&EA 2011,to provide a final list of current derogations. From these lists the Liaison Meeting could review the derogations and where appropriate put forward a list of derogations that could be approved to cover métiers across all RCM's
Follow-up actions needed	RCM Chair to provide updated lists of the derogation to the Liaison Meeting for consideration
Responsible persons for follow-up actions	Liaison Meeting 2012
Time frame (Deadline)	September 2012

UK response: The LM felt that the list as held by the RCM was sufficient

RCMNS&EA_QA_04: Quality Issues: Quality indicators ACCU score card	
RCM NS & EA 2011 Recommendation	Experience be gained in assessing quality indicators on stocks Using the WKACCU score card.
Follow-up actions needed	WKACCU score cards to assess bias in the sampling of stock will be completed for OTB_MCD in area IIIa, OTB_DEF for haddock in area IV and cod in NAFO Division 3M. Completed scorecards to be collated.
Responsible persons for follow-up actions	Scotland (Alastair Pout) to collate submissions of all MS (link to share point)
Time frame (Deadline)	1st August 2012.

UK response: This task was not completed. Only UK-Scotland and 1 other MS submitted data. The chair of RCM decided this task was not a priority.

Regional Database: Review of the Data Policy Document	
RCM NS&EA 2012 Recommendation	In respect of the development of the RDB and the protection of the data and the ownership of the data, a draft Data Policy Document has been established. The data policy document is based on the current situation but need to reviewed in all its aspects in order to be satisfactory for all MS. The data policy document is a "flexible" document and must be updated as the needs and the development of the RDB are changing. For example, a new data policy document will be prepared if there are changes to the exchange format (update is needed). The document is available in of the RCM report or through link: https://groupnet.ices.dk/rcm2012/nsea/Report%202012/Forms/AllItems.aspx?RootFolder=%2frcm2012%2fnsea%2fReport%202012%2fToR6%20%2d%20RDB&FolderCTID=&View=%7b3B9FD9D2%2d7943%2d41B0%2dAE26%2d53E95ED5D50A%7d)
Follow up actions needed	The National Correspondents (NC) from all MS are requested to read through the document, and sent all remarks and/or suggestions for improvements to the chair of the relevant RCM and to the RDB Steering Group (RDB-SG). Even if the NC has no specific remarks or suggestions, it is recommended to send a notification that the document has been read. Based on the input from the NCs, an updated version will be presented at the next NC Coordination meeting organized by the EC.

Responsible persons for follow-up actions	Chair RCM & RDB-SG, National Correspondents of all MS, EC
Timeframe	Before the 15th of November 2012

UK Response: The UK had no specific comments on the document.

III.C.4 Actions to avoid shortfalls

England and Wales

The new market electronic data capture (MEDC) system, anticipated in 2011, was not available until the end of 2012. It is expected that this system will lead to a large improvement in efficiency and accuracy of data capture, and will help to reduce shortfalls from planned sampling in future (see Section VI.1).

Scotland

MSS, as planned in the 2012 NP, did not carry out any pelagic observer trips. However, as high-grading is banned in these fisheries (Council Regulations 43/2009, 1288/2009 579/2011) and the observer effect was removed, landings better reflect catches, and measurements of the biological characteristics (age and length frequencies) of the landings were made at processing plants and factories. A very high percentage of landings into Scotland was sampled. The discussion re at-sea sampling of the metier OTM_SPF continues into 2013 with STECF discussing it in plenary.

There was a reduced frequency of demersal market sampling trips. It was known that sampling levels for the major North Sea demersal stocks could be reduced without adversely impacting precision. Some North Sea sampling effort was diverted to North Atlantic stocks to improve the DCF precision levels.
A number of new staff was recruited to backfill some existing staff losses and an initiative started to incorporate additional sampling via fishery officers located at ports around Scotland.
Planned sampling was mostly achieved.
CVs: most were calculated but in some cases, although sufficient data were available, the calculations were not made due to an inadvertent oversight. The UK will seek to improve its internal communications so that such oversights are prevented in the future. Some sample sizes were too small to have associated CVs

III.C Metier-related variables

North Atlantic

III.C.1 Achievements: Results and deviation from NP proposal

UK sampling achievements by sampling frame are given in Table III.C.4, and are summarised in the text table below:

Text table: UK sampling achievements in the North Atlantic in 2012 by sampling frame(S = Vessels operating from Scotland; E = Vessels operating from England; N = Vessels operating from Northern Ireland)

Sampling frame code	Sampling frame (fishing activities)	Sampling strategy	Average total no. of trips in the reference years	Total No. of trips during the Sampling year	Planned total no. trips to be sampled by MS	Achieved number of trips	% achieved number of trips ----- A/P*100
S1	Demersal finfish	Concurrent at the market & Market stock sp	589	599	125	136	109%
S2	Demersal finfish	Concurrent-at-sea	589	599	16	26	163%
S1	Pelagic finfish	Concurrent at the market	146	68	29	38	131%
S3	Pelagic finfish	Concurrent-at-sea	146	68	0	0	100%
S1	Shellfish	Market stock specific	42955	32395	56	65	116%
S4	Shellfish	Concurrent-at-sea	42955	32395	21	47	224%
E1	Demersal trawlers, nette	Concurrent at the market & stock specific	27496	31343	564	552	98%
E2	Demersal trawlers, nette	Concurrent-at-sea	27496	31343	101	101	100%
E5	Beam trawlers	Concurrent at the market & stock specific	1738	1580	324	246	76%
E2	Beam trawlers	Concurrent-at-sea	1738	1580	21	25	119%
E6	Mollusc dredgers	Concurrent at the market & stock specific	1238	444	60	8	13%
E2	Mollusc dredgers	Concurrent-at-sea	1238	444	15	11	73%
E3	Pelagic trawlers and sei	Concurrent at the market & stock specific	484	-	6	7	117%
E4	Shellfish pot & trap vess	Concurrent at the market & stock specific	8515	13360	276	65	24%
N1	Demersal finfish	Concurrent at the market & stock specific	8577	256	192	354	184%
N2	Demersal finfish	Concurrent-at-sea	233	256	12	8	67%
N3	Shellfish	Concurrent-at-sea	8344	7935	72	167	232%
N1	Pelagic fish	Concurrent at the market & stock specific	36	27	16	4	25%
N4	Pelagic fish	Concurrent-at-sea	36	27	4	3	75%
N5	Mollusc dredgers	Concurrent-at-sea	403	777	6	8	133%
N6	Shellfish pot & trap vess	Concurrent-at-sea	908	1081	60	4	7%
					1976	1875	95%

The number of fishing trips sampled across the frames was very close to the planned number. Deviations for individual sampling frames are largely explained by changes in sampling towards more statistically robust schemes, specific issues concerning component metiers, and staffing problems encountered, as described below.

Table III_C_3 lists the expected and achieved sampling of trips by Level-6 metier, for concurrent sampling either at sea or on shore, and for additional stock-based sampling for length compositions. For consistency with the NP, the table shows sampling for individual UK countries.

Regarding Table III.C.3, the red-formatted data rows comprise metiers that were sampled but were not included in the National Proposal. Reviewers and the Commission should already be aware that sampling in 2011 and 2012 took place on the basis of probability-based sampling

within clearly defined sampling frames rather than using a quota sampling system based on targeted numbers of metier-based samples. This reflects the ‘re-interpretation’ of the DCF that occurred the mid-term of its current seven year programme as a result of the series of ICES workshops: WKACCU, WKPRECISE and WKMERGE. Using probability-based sampling within defined sampling frames means landings and vessels may well be sampled even though they did not appear in the National Proposal. It is a consequence of using a more statistically sound sampling scheme and is fully in line with developments and guidance coming from the Regional Coordination Meetings

A summary of expected and achieved sampling by Level 6 metiers at the UK (combined) level is given in the text table on the following page.

Concurrent sampling achievements: Overall for the UK, the number of concurrent samples (market and at sea combined) was 139% of the planned number in the North Atlantic. The additional time required for concurrent sampling on shore was a limiting factor in the sampling programmes before and after the introduction of the new port sampling schemes in Scotland and England.

Stock based sampling achievements The overall achieved number of stock-specific samples by the UK in the North Atlantic was around 71% of the target, although the difference varied widely between fishing grounds and metiers. The individual species samples collected during concurrent sampling are offset against the stock based targets reducing the requirement for a proportion of the stock specific targets to be collected.

At-sea (discard) sampling achievements: Overall for the UK, the achieved at-sea sampling was 108% of the planned numbers.

Text table: UK expected and achieved numbers of fishing trips sampled in the North Atlantic in 2012 for (a) concurrent and (b) market stock specific length compositions. Table (c) gives the numbers of sampling trips at sea, which is a subset of the trips in table (a).

a) Concurrent market and at sea sampling

Fishing ground	Vb		VI		VIIa		VIIbcjk		VIIe		VIIfgh		Total North Atlantic	
Metier LVL6	Expected	Achieved	Expected	Achieved	Expected	Achieved	Expected	Achieved	Expected	Achieved	Expected	Achieved	Expected	Achieved
DRB_MOL_0_0_0				4	6	**9**			24	17	15	1	45	31
FPO_CRU_0_0_0			0	1	72	4			24	34	12	31	108	70
GNS_DEF_0_0_0					6	10	0	1	32	52	48	66	86	129
LHP_FIF_0_0_0									12	90	30	69	42	159
OTB_CRU_70-99_0_0			21	131	120	548						3	141	682
OTB_DEF_>=120_0_0			8	21									8	21
OTB_DEF_100-119_0_0			8	5					9	6	12	8	29	19
OTB_DEF_70-99_0_0									48	121	24	17	72	138
OTB_MOL_70-99_0_0				7		1								8
OTB_SPF_32-69_0_0				2										2
OTM_DEF_100-119_0_0					24	14							24	14
OTM_SPF_0_0_0	0	0	24	36			2	.	6	1			35	39
PTM_SPF_0_0_0					8	7							8	7
SSC_DEF_100-119_0_0						2						2		4
TBB_DEF_70-99_0_0									38	86	33	78	69	164
Total	0	0	24	173	204	228	4	1	114	139	132	124	479	665

b) Stock based market sampling

Fishing ground	Vb		VI		VIIa		VIIbcjk		VIIe		VIIfgh		Total North Atlantic	
Metier LVL6	Expected	Achieved	Expected	Achieved	Expected	Achieved	Expected	Achieved	Expected	Achieved	Expected	Achieved	Expected	Achieved
DRB_MOL_0_0_0			19	35	5	1			24	1	12	0	60	37
FPO_CRU_0_0_0			32	29	72	0			96	0	60	0	260	29
GNS_DEF_0_0_0						1		1	60	46	96	42	156	90
LHP_FIF_0_0_0									60	2	36	0	96	2
OTB_CRU_70-99_0_0			78	70	216	13							294	83
OTB_DEF_>=120_0_0	0	0	33	63									32	63
OTB_DEF_100-119_0_0			14	3						54	12	7	26	64
OTB_DEF_70-99_0_0									60	70	12	6	72	76
OTB_MCEP_32-69_0_0			0	1									0	1
OTM_DEF_100-119_0_0					24								12	0
OTM_SPF_0_0_0										6				
PTM_SPF_0_0_0					12	0							12	0
TBB_DEF_70-99_0_0									144	63	132	44	276	107
Total	0	0	176	201	329	15	0	1	444	242	360	99	1296	552

c) Concurrent at sea sampling

Fishing ground	Vb		VI		VIIa		VIIbcjk		VIIe		VIIfgh		Total North Atlantic	
Metier LVL6	Expected	Achieved	Expected	Achieved	Expected	Achieved	Expected	Achieved	Expected	Achieved	Expected	Achieved	Expected	Achieved
DRB_MOL_0_0_0				4	6	8			12	10	3	1	21	23
FPO_CRU_0_0_0			0	1	60	4			0	0	0	0	60	5
GNS_DEF_0_0_0					6	5			20	23	18	17	44	45
LHP_FIF_0_0_0										1		1		2
OTB_CRU_70-99_0_0			21	80	84	181						2	105	263
OTB_DEF_>=120_0_0		0	8	21									8	21
OTB_DEF_100-119_0_0			8	5					9	6	0	2	17	13
OTB_DEF_70-99_0_0									24	23	12	9	36	32
OTB_MOL_70-99_0_0			0	7									0	7
OTB_SPF_32-69_0_0			0	2									0	2
OTM_DEF_100-119_0_0					12	8							12	8
PTM_SPF_0_0_0					4	3							4	3
TBB_DEF_70-99_0_0									12	15	9	10	21	25
Total	0	0	37	120	172	209	0	0	77	78	42	42	328	449

Reasons for deviations from expected achievements

The principal factor governing deviations from expectations is that the UK has moved away from quota sampling of metiers towards a more statistically sound design-based sampling scheme. This reflects the ‘re-interpretation’ of the DCF that occurred the mid-term of its current seven year programme as a result of the series of ICES workshops: WKACCU, WKPRECISE and WKMERGE. Using probability-based sampling within defined sampling frames means that some metiers may be sampled that did not appear in the 'expected' programme and, similarly, some that did appear in the 'expected' programme may not be sampled or be sampled to a greater or lesser degree. This is a consequence of using a more statistically sound and probabilistic sampling scheme and is fully in line with developments and guidance coming from the Regional Coordination Meetings.

In area VII in particular, trips from several different fishing grounds can be landed, and the move away from “quota sampling” (i.e. trying to meet pre-defined targets at the Level-6 metier and individual fishing grounds) has resulted in sampling achievements that can differ substantially from the original targets in the NP. This reflects firstly the substantial time difference between processing samples for concurrent sampling and sampling for individual species, and also changes in fleet activities affecting availability of samples. As the concurrent sampling targets have been met, many of the additional stock-specific samples for assessed stocks have been derived from concurrent sampling. A further cause of deviations from the NP proposal in 2012 was the under-staffing of the English sampling programme in the first half of the year.

In Northern Ireland, targets for market stock specific sampling in terms of length measurements were met in the majority of cases. Biological sampling of fish at the three Northern Ireland markets is not allowed by the auctioneers and samples have to be purchased for age determination. Age (and length) sampling of landings are thus becoming more problematic due to the poor availability of fish at low TACs. Fish were less available than in previous years and significant alterations have been made to the way the fleet operate, which has an implication on trips/metier and the sampling of affected metiers in Northern Ireland. Fish landings from the *Nephrops* fleet have also decreased dramatically. As a result of reducing sampling opportunities at the ports, the sampling effort shifted to at sea observation, which dramatically increased sampling levels of length and age information. A higher number of observers than anticipated were subcontracted. Subcontracting cost will be significantly reduced by recruiting observers on a more permanent basis in 2013. The increasing shift to observer sampling also resulted in a significant increase in the observer sample cost (skipper fees similar to England).

A combination of changes in fleet behaviour and TAC restrictions was limiting sampling opportunities for some metiers. The low sampling of PTM_SPF resulted from the low number of trips carried out by the fleet operating this metier due to the rapid achievement of the quota. There are no directed whitefish fleet (OTM_DEF metier) operating in VIIa anymore due to severe TAC restrictions; sampling opportunities is almost non-existent. . As concerns

FPO_CRU, there are no on-shore markets for this metier in Northern Ireland that would facilitate sampling of landings, and sampling of this metier can only be done at sea.

For demersal species, the Marine Scotland observer sampling programme moved to a probability based selection protocol for choosing vessels to be sampled based on a complete vessel list. It was anticipated it would cover most ranked and merged metiers. Length sampling is concurrent for all species. Market stock specific and concurrent at sea sampling was achieved in most cases except 0TB_DEF_100-119 (market and sea) due to the fishing fleet changing gear selected. The total numbers achieved for OTB_DEF_>=120 and OTB_CRU_70-99 concurrent at sea sampling seem inflated. This is due to the way the information is now collated. For example, if during a 3 day *Nephrops* observer trip the boat lands twice, it is now recorded at 2 trips. In the NP this would have been considered as 1 trip. The number of days/trips planned were achieved.

Faroe Vb – no sampling was done at sea or on shore of fish caught in Vb. There were no landings (cod, haddock, whiting, saithe) due to the on-going dispute over Faroese and Icelandic mackerel catches.

Achieved Length sampling of catches, landings and discards by metier and species

Table III.C.6 provides a list of numbers sampled in 2012 for length by species, fishing ground, and fleet metier. In a number of cases, the samples could not be successfully linked with mesh size data. Stocks in the North Atlantic which had length measures below 90% of expected are given in the text table below:

Text table. *Species with shortfalls in planned length sampling in 2012:*

Region	Fishing ground	Species	Species Group	Planned no. fish to be measured/aged at national level	% achievement
North Atlantic	VIIa	*Cancer pagurus*	2	500	25%
North Atlantic	VIIe	*Cancer pagurus*	2	6000	89%
North Atlantic	VIIe	*Conger conger*	2	75	83%
North Atlantic	VIIfgh	*Dicentrarchus labrax*	2	1000	83%
North Atlantic	VIIfgh	*Lamna nasus*	1	50	18%
North Atlantic	VIIe	*Leucoraja fullonica*	1	25	32%
North Atlantic	VI	*Loligo forbesii*	2	250	9%
North Atlantic	VIIe	*Loligo forbesii*	2	2000	40%
North Atlantic	VIIfgh	*Loligo forbesii*	2	250	11%
North Atlantic	VIIbcjk	*Merluccius merluccius*	1	750	42%
North Atlantic	VII FU14	*Nephrops norvegicus*	1	6000	41%
North Atlantic	VIIe	*Pollachius virens*	1	75	23%
North Atlantic	VIIfgh	*Prionace glauca*	1	50	44%
North Atlantic	VIIbcjk	*Raja brachyura*	1	25	0%
North Atlantic	VIIfgh	*Raja clavata*	1	250	76%
North Atlantic	VIIa	*Rajidae nei*	1	100	0%
North Atlantic	VIIe	*Squalus acanthias*	1	25	8%

Explanations for deviations in length sampling:

- *Cancer pagurus*: VIIa target not achieved due to reduced landings being available to sample and unanticipated staff changes that hindered at sea observation.
- *Cancer pagurus*: VIIe. Unanticipated staff departures resulted in reduced sampling effort of the shellfish fisheries in this area particularly in the 3rd and 4th quarter.
- *Conger conger*: VIIe sampling targets are set for the total stock and the breakdown by fishing ground based on landings from the previous year. The overall target was met.
- *Dicentrarchus labrax: VIIfgh* Unanticipated staff departures resulted in reduced sampling effort in this area particularly in the 3rd and 4th quarter.

- *Lamna nasus* – VIIfgh landings restrictions limited the number of individuals available for sampling.
- *Loligo forbesii*: VI sampling target was unachievable due to a drop in landings and the introduction of fully random sampling which does not allow samplers to target a vessel with specific species such as *Loligo*.
- *Loligo forbesii*: VIIe sampling targets are set for VII and the breakdown by fishing ground based on landings from the previous year. Landings are for loligo spp and numbers of *L. forbesii* sampled depends on species mix. The overall target was met.
- *Loligo forbesii*: VIIfgh sampling targets are set for VII and the breakdown by fishing ground based on landings from the previous year. Landings are for loligo spp and numbers of *L. forbesii* sampled depends on species mix. The overall target was met.*Merluccius merluccius*: VIIbcjk,sampling targets are set for the total stock and the breakdown by fishing ground based on landings from the previous year. The overall target was met.
- *Nephrops* FU14: Changes in landing practices affected access and limited landings by NI boats into England combined with adverse weather conditions resulted in reduced sampling opportunities.
- *Pollachius virens*: VIIe sampling targets are set for the total stock and the breakdown by fishing ground based on landings from the previous year. The overall target was met.
- *Prionace glauca: VIIfgh landings r*estrictions limited the number of individuals available for sampling.
- *Rajidae* : The targets for *Rajidae* are set based on numbers observed in the landings by species from the previous year. The overall target for the species group was met.
- *Squalus acanthias* : VIIe Landings ban removed sampling opportunities.

Derogations

- The following derogations were granted:

Aphanopus spp	North Atlantic	ICES	V, VI, VII (excluding d), VIII, IX, X, XII, XIV
Centroscymnus coelolepis	North Atlantic	ICES	V, VI, VII (excluding d), VIII, IX, X, XII, XIV
Coryphaenoides rupestris	North Atlantic	ICES	V, VI, VII (excluding d), VIII, IX, X, XII, XIV
Molva dypterygia	North Atlantic	ICES	V, VI, VII (excluding d), VIII, IX, XII, XIV

Octopus vulgaris	North Atlantic	ICES	V, VI, VII (excluding d), VIIIabde, IXb, X, XII, XIV
Phycis blennoides	North Atlantic	ICES	V, VI, VII (excluding d), VIII, IX, X, XII, XIV
Sebastes marinus	North Atlantic	ICES	V, VI, XII, XIV, SA 2+ (Div. 1F+3K)
Gadus morhua	NAFO areas	NAFO	SA 1
Sardina pilchardus	CECAF FAO 34	CECAF	All areas
Sardinella aurita	CECAF FAO 34	CECAF	All areas
Sardinella aurita	CECAF	All areas	G1

III.C.2 Data quality: Results and deviation from NP proposal

Table III.C.5 provides precision estimates for achieved length/age sampling of fishery catches by species and fishing ground in 2012. Variances were calculated separately for the fleet-raised length compositions from sampling in England, Scotland and Northern Ireland, using COST tools or equivalent, and then combined to give the precision of the total UK estimates. CVs are presented for biological samples where there were adequate samples sizes and where the statistical models used were able to converge.

In some cases sufficent data to calculate CVs were available but the calculations were not made due to an inadvertent oversight. These CVs can be provided, but not within the period required to respond to the Commission's queries. The UK will seek to improve its internal communications so that such oversights are prevented in the future. CVs already presented were for biological samples where samples sizes were adequate and where the statistical models used were able to converge. Some sample sizes were too small

Sampling of landed fish achieved the DCF target of Level 2 precision (CV 12.5%) in the following stocks

VIIa	Dicentrarchus labrax
VIIa	Lophidae sp
VIIa	Merlangius merlangus
VI	Merluccius merluccius
VIIa	Microstomus kitt
VI FU12	Nephrops norvegicus
VIIa	Raja brachyura
VIIa	Raja clavata
VIIa	Raja montagui

VIIa	Raja naevus

Level 1 precision on sampling of landed fish (CV 20%) was achieved for the following stocks

VI	Clupea harengus
VIIa	Gadus morhua
VI	Melanogrammus aeglefinus
VI	Merlangius merlangus
VIIa	Molva molva
VI FU11	Nephrops norvegicus
VI FU13	Nephrops norvegicus
VIIa	Pollachius pollachius
VI	Pollachius virens
VIIa	Pollachius virens
VIIa	Psetta maxima
VIIa	Zeus faber

At-sea sampling achieved the DCF target of Level 2 precision (CV 12.5%) in the following stocks

VIIa	Lophidae sp

Level 1 precision on at-sea sampling (CV 20%) was achieved for the following stocks

VIIa	Microstomus kitt
VIIa	Pollachius virens

The UK re-iterates that the DCF precision targets are currently unachievable for many stocks at the Member State level, despite substantial and costly sampling programmes, and are appropriate only for the combined international data. In particular, achieving the discards target CVs across all stocks at the Member State level would require a very large increase in observer coverage which is currently not feasible in the UK. It must also be recognised that the requirement to sample additional species and the increased time needed to undertake concurrent sampling reduces the number of, in particular, G1 species that are measured.

III.C.3 Follow-up of Regional and international recommendations

Following recommendations from the North Atlantic RCM, a similar collaborative exercise as recommended for VIId sole (between the UK, France, and Belgium) was implemented for VIIa sole otoliths by the UK, Ireland and Belgium from 2009 onwards.

The following RCM recommendations were relevant to the UK programme and supply of data in 2012:

Metier and stock variables : descriptions of nationally ranked métiers.	
RCM NA 2010 Recommendation	RCM 2010 recommends that MS use the template provided by RCM NA 2009 to update old métier descriptions (when needed) and describe new ranking métiers identified at this RCM, and strictly respect the agreed naming conventions of fishing ground and métiers as well as the deadline for submission of the information. Appointed persons are responsible for requesting the data and compiling it on a regional level.
Follow-up actions needed	Preparation of métier descriptions/exchange data for task-sharing.
Responsible persons for follow-up actions	All MS.
Time frame (Deadline)	Every year before RCM meetings.

UK action: The UK provides metier descriptions in the required format.

Metier variables : Regional ranking / RDB	
RCM NA 2011 Recommendation	RCM NA recommends that all MS investigate data loaded to RDB under metier 'No_logbook' and replace with the agreed code given in section 3.1 and request the RDB steering group to endorse these as the only permitted entries within the fields defined.
Follow-up actions needed	Resubmit data into the regional database after correction
Responsible persons for follow-	All MS

up actions	
Time frame (Deadline)	July 2012

UK action: No UK action as this data type was not present in the UK submission.

Metier variables : Regional ranking/ RDB	
RCM NA 2011 Recommendation	RCM NA recommended the use of the standard code MIS_MIS_0_0_0 to replace 'No_Matrix' for fisheries not specified in Annex IV of the Commission Decision.
Follow-up actions needed	Resubmit data into the regional database after correction
Responsible persons for follow-up actions	All MS
Time frame (Deadline)	July 2012

UK action: No UK action as this data type was not present in the UK submission.

Metier variables : Metier descriptions	
RCM NA 2011 Recommendation	MS to update metier descriptions already compiled by RCM NA 2010 and using the standard template complete descriptions for any new regionally ranked metiers identified. Updated and new files to be uploaded by Fishing Ground co-ordinators.
Follow-up actions needed	MS to complete metier descriptions
Responsible persons for follow-up actions	All MS
Time frame (Deadline)	RCM NA 2012

MS were unable to update their fleet descriptions as priority was given to providing data to be uploaded to the RDB. RCM NA 2012 was of the opinion that these descriptions are necessary to assist all countries when comparing allocated metier data between MS and to ensure that the vessel activity within the metier was, for example, targeting the same species groups or in the same season. The RCM proposed that the fleet descriptions be made available for the 2013 RCM NA.

Métier related variables: Routines for establishing bilateral agreements	
RCM NA 2011 Recommendation	4. MS should make sure that their landings abroad are included in the Regional Database upload allowing the RCM to analyse the possible needs for bilateral agreements. 5. The RCMs should perform an annual analysis on landings in foreign countries and conclude where bilateral agreements need to be made. MS should set up agreements, fixing the details of sampling, compilation and submission of data in each case when it is indicated by the RCM that a bilateral agreement is needed. Standard output algorithms to enable analysis of compiled data should be included in the RDB.
Follow-up actions	MS to make sure landings abroad data are included into the RDB
Responsible persons for follow-up actions	MS
Time frame (Deadline)	Annually. Deadline 1st of July 2012.

UK Landings abroad were uploaded to the RDB

Métier variables: Additional Species compositions in metier coding	
RCM NA 2012 Recommendation (RCMNA 1)	RCM NA 2012 recommends allow for new species compositions to link to certain gear types to allow appropriate classification of metiers. The following species compositions are proposed: SPF, DEF & DWS to be allowed for gear LHM MPD to be allowed for gear PTB MCF to be allowed for gear SDN MOL to be allowed for gear TBB
Follow-up actions needed	Approval by Liaison Meeting.
Responsible persons for follow-up actions	LM
Time frame (Deadline)	September 2012

Endorsed by LM and the UK will employ the new codes where appropriate

Métier variables: Metier Descriptions	
RCM NA 2012 Recommendation (RCMNA 2)	RCM NA 2012 recommends that the metier descriptions for fishing grounds under the remit of the RCM be updated by each MS in as much detail as possible. These descriptions to be used as a tool, in conjunction with outputs from the RDB, to identify metiers that could be combined for regionally coordinated sampling plans.
Follow-up actions needed	MS to update Metier descriptions
Responsible persons for follow-up actions	MS participating in fisheries under the remit of RCM NA
Time frame (Deadline)	June 2013

The UK will provide fleet descriptions for RCM NA 2013

Métier variables: Review of RCM Agreements	
RCM NA 2012 Recommendation (RCMNA 3)	RCM NA 2012 supports the Recommendation of RCM NS&EA 2012 that the Summaries of agreements reached during RCM NA 2011 be reviewed to provide a final list of current agreements. From these lists the Liaison Meeting could review the agreements and where appropriate put forward a list of agreements that could be approved to cover métiers across all RCM's
Follow-up actions needed	RCM Chair to provide updated lists of agreements to the Liaison Meeting for consideration
Responsible persons for follow-up actions	Liaison Meeting 2012
Time frame (Deadline)	September 2012

The LM felt that the list as held by the RCM was sufficient

Métier related variables: Routines for establishing bilateral agreements	
RCM NA 2011 Recommendation	In order to identify where bilateral agreements on sampling of foreign landings have to be set up, the RCM NA proposes a common understanding of thresholds for sampling. • where less than 5% of a member state's total landings, sampling of landings abroad are excluded (corresponding to the application of 1639/2001), given that the other 95% of the landings are sufficiently sampled by the landing countries for the relevant metier(s) • the analysis on when bilateral agreements are needed, should be done annually by the RCM using landing data from the previous year
Follow-up actions	DG MARE and STECF to reflect on this m
Responsible persons for follow-up actions	DG MARE and STECF
Time frame (Deadline)	2012

The UK will follow the guidelines once established

Regional Database: Review of the Data Policy Document	
RCM NA 2012 Recommendation (RCMNA 6)	In respect of the development of the RDB and the protection of the data and the ownership of the data, a draft Data Policy Document has been established. The data policy document is based on the current situation but need to re-viewed in all its aspects in order to be satisfactory for all MS. The data policy document is a "flexible" document and must be updated as the needs and the development of the RDB are changing. For example, a new data policy document will be prepared if there are changes to the exchange format (update is needed). The document is available in Annex 5: of the RCM NA report or through link: https://groupnet.ices.dk/rcm2012/nsea/Report%202012/Forms/AllItems.aspx?RootFolder=%2frcm2012%2fnsea%2fReport%202012%2fToR6%20%2d%20RDB&FolderCTID=&View=%7b3B9FD9D2%2d7943%2d41B0%2dAE26%2d53E95ED5D50A%7d)
Follow-up actions needed	The National Correspondents (NC) from all MS are requested to read through the document, and sent all remarks and/or suggestions for improvements to the chair of the relevant RCM and to the RDB Steering Group (RDB-SG). Even if the NC has no specific remarks or suggestions, it is recommended to send a notification that the document has been read. Based on the input from the NCs, an updated version will be presented at the next NC Coordination meeting organized by the EC.
Responsible persons for follow-up actions	Chair RCM & RDB-SG, National Correspondents of all MS, EC
Time frame (Deadline)	Before the 15th of November 2012

UK Response: The UK had no specific comments on the document.

III.C.4 Actions to avoid shortfalls

England and Wales

Actions to avoid shortfalls in the concurrent sampling programme are explained above in the North Sea and eastern Arctic part of Section III.C.4.

Scotland.

See actions in North Sea and E Arctic section III.C.4. CVs: most were calculated but in some cases although sufficient data were available the calculations were not made due to an inadvertent oversight. The UK will seek to improve its internal communications so that such oversights are prevented in the future. Some sample sizes were too small to have associated CVs

Northern Ireland

Various actions to avoid shortfalls in the concurrent sampling programme have been investigated. The concurrent sampling programme was new to 2009 and revising the historic sampling programme is still proving problematic. Sampling procedures have been modified for the pelagic fleet to be less dependable on processors. The use of contract observer staff has been implemented towards the end of 2011 and has increased at-sea sampling levels in 2012. Infrequent and small landings of fish, due to quota restrictions, make the achievement of concurrent at-market and market stock-specific targets extremely difficult to achieve, both in terms of length and biological information. The sampling focus has shifted already to at-sea sampling in an attempt to achieve these targets and proved to be very successful. A higher number of observers than anticipated were subcontracted, but contracting cost will be significantly reduced by recruiting observers on a more permanent basis in 2013. The focus will remain on at sea sampling, but better coverage of metiers is necessary. The increased demand of observer coverage on highly selected gears (thus increasing the number of metiers) will complicate the task further.

III.D Recreational fisheries

England

Overview

Following a pilot study in 2010 to compile information relevant to design of a full-scale recreational sea fishing survey in England, and work conducted in 2011to design the surveys, trial methods and train staff, a programme of recreational fishery surveys took place in 2012 covering the whole coast of England. Work completed in 2012 is described in III.D.1 – III.D. 4. It is believed that in England the vast majority of recreational sea fishing is sea angling, and the surveys are designed to focus on sea anglers. However, information on other gears is being collected. The recreational fishing surveys in England have been designed following guidelines given by the ICES Planning Group on Recreational Fisheries and also based on the design of similar surveys in the USA and Australia. The elements of the survey were as follows:

- Monthly surveys of households in Great Britain, using face-to-face interviews, to estimate recreational sea angling effort (angler-days) by region and fishing mode (shore; private boat)
- Random stratified on-site surveys of anglers at shore angling sites and private boat launching sites in nine regional strata in England, to estimate mean catch per unit effort (CPUE), length compositions by species, angling effort and trip expenditure.
- Random stratified sampling from a known population of sea angling charter vessels to estimate total effort and catches by species.
- Quarterly on-line surveys were also used to collect additional information to help interpret effort and catch data and future survey design.

The flow of data collection and estimation for the catch surveys is illustrated in Fig 1. As in many recreational fishing surveys, angling effort (days fishing) and catch per unit effort (CPUE: average catch per day) are obtained from separate surveys, and total catches are estimated by multiplying the total effort with the average CPUE.

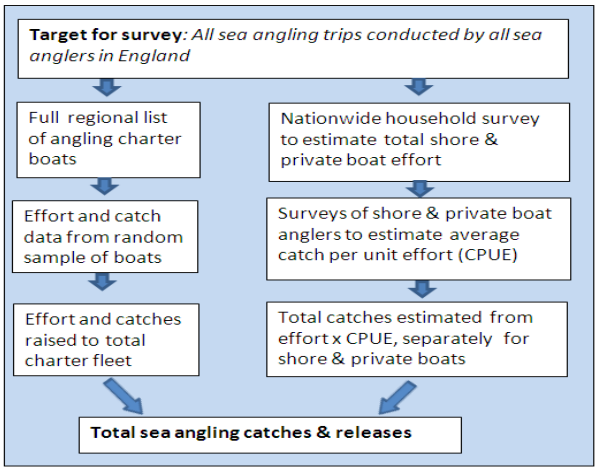


Fig. III.D.1. Approaches to estimate total sea angling catches and releases of species caught by charter boat, shore and private/rental boats in England.

Population survey to estimate fishing effort (covers England, Scotland and Wales)

Questions on recreational fishing were added to the monthly Office of National Statistics (ONS) multipurpose government social survey[1]. The survey involves to-face Interviews of people from a random selection of 2,100 households in Great Britain each month. Each month 67 postal areas were randomly selected (3 in Wales, 6 in Scotland, 58 in England), and 30 households were chosen in each postal area.

Only one randomly pre selected respondent per household was interviewed. Respondents were asked if they went sea angling in the previous year, on how many calendar days they went angling from the shore, private / rental boats or charter boats during the previous three months, and in which coastal regions they went angling. During 2013 the results will be raised up to the total GB population to give numbers of residents who went sea angling, and the total angling effort (total number of angler-days) for large sea areas around the coast, in each quarter of the year. Some additional questions on cod and bass catches in last three months, and sea angling expenditure, were added to the questionnaires.

The estimates of effort do not include visiting anglers from outside GB, or anglers under 16 years old, although participation of under-16s in sea angling was recorded. (On-site surveys in 2012 showed that non-GB anglers comprised a very small proportion of total anglers interviewed).

The survey achievement cannot be split between North Sea and North Atlantic, as it covers all households in Great Britain not just coastal regions.

On-site surveys of shore anglers and private boat anglers in England

This survey involved direct interviews with anglers fishing from the shore or returning to shore on private boats to record method of fishing, time spent fishing, catches (kept and released) and sizes of kept and released fish. The survey was designed around a list-frame of known sites where shore angling or private boat launching takes place along the coastline of England. The units of the frame are site - day. Separate list frames were established for shore and private boat angling and adjusted quarterly where needed to account for seasonal changes in distribution of angling. The sampling frame was stratified as follows:

1. Nine spatial strata corresponding to the districts of the nine Inshore Fisheries and Conservation Authorities in England carrying out the interviews
2. Quarter of the year (to account for seasonal variability)
3. Two within-week strata (Mon-Fri; Sat-Sun)
4. Two activity level strata (high – low) based on local knowledge of popularity of angling sites (not including zero activity sites which are excluded from the frame).

Relative sampling intensity is evenly divided across strata with the exception of the activity level strata where the high activity strata are sampled more intensively than the low activity

[1] http://www.ons.gov.uk/about/who-we-are/our-services/omnibus-survey/index.html

ones. The weekly sampling scheme is devised to spread out the sampling as evenly as possible across strata and times of day. Within the activity-level strata, sites to visit each week for sampling are chosen at random.

Private boats are sampled using an “access point” survey where all or a known fraction of boats are intercepted as they land during a sampling shift, giving complete trip data. Due to the diffuse distribution of shore angling, a “roving creel” survey is adopted in which surveyors rove along a stretch of coastline and count and interview anglers while they are fishing. Shore anglers are asked how long they have fished that day already, and how much longer they expect to fish that day, so that their total trip duration is predicted.

All work was conducted by the Inshore Fisheries and Conservation Authorities under contract to Cefas.

Charter boat survey in England

The charter boat survey used a list-frame of known charter boats operating from English ports. The primary sampling units are vessels x months. The units are stratified by quarter and five sea-areas (Irish Sea, Celtic Sea, western Channel, eastern Channel and North Sea). A random stratified selection of 34 vessels per month was made, and skippers agreeing to participate maintained a diary of activities and catches for the month. All refusals to provide data are logged. The survey will run for 12 months but could not be started until August 2012.

On-line surveys in England

Four quarterly on-line surveys were conducted during 2012, requesting a 3-month recall of angling effort and catches by mode of fishing and by area.

Further details of all the surveys in England can be found at www.seaangling2012.org.uk .

Scotland

A questionnaire survey of recreational charter vessels was started in 2012

North Sea and Eastern Arctic

III.D.1 Achievements: Results and deviation from NP proposal

England

Office of National Statistics opinions survey (results for whole of Great Britain)

In total, 24,120 were addresses selected from postcode user file, of which 21,881 were eligible for Opinions survey. Of these, 9,261 refused to complete survey (which is in line with expectations for such a survey and not linked to the presence of angling questions) or were non-contactable. The remaining 12,619 households were asked sea angling questions.

On-site surveys of shore anglers and private boat anglers in England

The following sampling was achieved:

	Private Boats	Shore angling
Number of sampling days	127	211
Number of access points visited	238	857
Number of anglers interviewed	103	550

Charter boat survey

The following sampling was achieved:

Number of vessels selected (NSea & NAtlantic)	153
Number of vessels participating (NSea & NAtlantic)	81
Number vessel trips in North Sea and eastern Channel	163
Number of anglers in North Sea and eastern Channel	1112

Salmon and eels

See Annex 2

Scotland

The recreational survey requirement for this region comprises data collection for cod, eel and sharks.

Eels and sharks in Scotland: the Freshwater Fish Conservation (Prohibition on Fishing for Eels) (Scotland) Regulations 2008 came into force on 26 January 2009 prohibiting fishing for eel and that for sharks, the Sharks, Skates and Rays (Prohibition of Fishing, Transhipment and Landing) (Scotland) Order 2012 was before the Scottish Parliament in 2011 and came into force on 30 March 2012. Both these regulations apply to recreational fisheries as well as to commercial fishing. In light of these regulations, no extant or future derogation or data targets are required for eel or shark and the RCM NS&EA recommendation on eel derogation in marine waters is not relevant.
There is a limited catch and release scheme practised for tope (Galeorhinus galeus) and spurdog (Squalus acanthias).

For cod in Scotland, a questionnaire survey of recreational charter boats was carried out in 2012 with 26 vessels carrying 6 - 12 anglers being asked to keep records of cod catches in ICES area IV.
[17 vessels from ICES area VI that carried 4- 12 anglers were also targeted.]
The results were not encouraging but this was not unexpected as the questionnaires were sent out late in the angling season.
Of the total 26 vessels approached, several had gone out of business and most didn't keep records of catches. Data has been collated on 1124 fish caught with a 30% release.

Salmon: Although not required under the DCF for this region, Scotland does, nevertheless, collect detailed data on recreational and commercial fishing of salmon: In 2012 a total of 1049 (>90%) questionnaires were returned from Districts within area IV regarding the catch statistics of salmon.

Data are combined geographically into 109 Districts around Scotland which are further aggregated into 11 Regions. Districts correspond either to a single river catchment together with adjacent coast or to groups of neighbouring river catchments.
Rod & line fisheries were asked to provide the monthly numbers and total weights of those salmon and grilse which were legally caught then released.

The catch data are collected to provide a measure of the performance of the 3 legal types of salmon and sea trout fisheries (i.e. fixed engines, net and coble and rod and line). In addition, interpretation of the catch trends is used to infer trends in the status of the stocks underpinning the fisheries. This information is vital nationally for managing Scottish stocks and internationally for managing fisheries in international waters. The latter is facilitated through expert groups in ICES (assessment role) and through NASCO (management role).

Sea Bass: The ICES advice issued in 2012 includes official landings tables that show Scottish waters to represent the northern limit of sea bass which are only infrequently caught in commercial gears. The low abundance of bass in these areas does not warrant the expense of a dedicated boat and shore recreational fishery survey for bass and the UK surveys are designed to cover only the more southerly regions where bass are more common.

III.D.2 Data quality: Results and deviation from NP proposal

England: All surveys were conducted as planned, with the exception of the charter boat survey which did not commence until August. This delay was caused by a decision during 2012 to subcontract the work, which involved a considerable delay. The survey is continuing into 2013. Numbers of private boats sampled during the on-site survey were less than anticipated due to the diffuse activities and brief time windows for sampling. Additional data on catch rates for these anglers were obtained from the quarterly on-line surveys.

Scotland: A survey was conducted but the results were not encouraging. This was not unexpected as the questionnaires were sent out late in the angling season.
Of the total 26 vessels approached, several had gone out of business and most didn't keep records of catches. Data has been collated on 1124 fish caught with a 30% release. The survey will be continued and extended in 2013.

III.D.3 Follow-up of Regional and international recommendations

Not applicable

III.D.4 Actions to avoid shortfalls

England: Due to delayed start of charter-boat survey, the survey is extending into 2013 to achieve 12 months sampling. Additional information, including for months not sampled, and including cod and seabass catches, is obtainable from the ONS population survey and the on-line surveys.

Scotland: Vessels were approached late in the season.
For 2013 skippers of vessels were phoned, emailed and sent new questionnaires before the recreational fishery season started. They will be contacted throughout the chartering season. An attempt will be made to assess activity of private boats.

North Atlantic

III.D.1 Achievements: Results and deviation from NP proposal

England

Office of National Statistics opinions survey (results for whole of Great Britain)

In total, 24,120 were addresses selected from postcode user file, of which 21,881 were eligible for Opinions survey. Of these, 9,261 refused to complete survey (which is in line with expectations for such a survey and not linked to the presence of angling questions) or were non-contactable. The remaining 12,619 households were asked sea angling questions.

On-site surveys of shore anglers and private boat anglers in England

The following sampling was achieved:

	Private Boats	Shore angling
Number of sampling days	97	207
Number of access points visited	152	637
Number of anglers interviewed	116	944

Charter boat survey

The following sampling was achieved:

Number of vessels selected (NSea & NAtlantic)	153
Number of vessels participating (NSea & NAtlantic)	81

Number vessel trips in North Atlantic	118
Number of anglers in North Atlantic	904

Salmon and eels

See Annex 2

Scotland

The recreational survey requirement for this region comprises data collection for salmon, sea bass, eel and sharks.

Eels and sharks in Scotland: the Freshwater Fish Conservation (Prohibition on Fishing for Eels) (Scotland) Regulations 2008 came into force on 26 January 2009 prohibiting fishing for eel and that for sharks, the Sharks, Skates and Rays (Prohibition of Fishing, Transshipment and Landing) (Scotland) Order 2012 was before the Scottish Parliament in 2011 and came into force on 30 March 2012. Both these regulations apply to recreational fisheries as well as to commercial fishing. In light of these regulations, no extant or future derogation or data targets are required for eel or shark.
There is a limited catch and release scheme practised for tope (Galeorhinus galeus) and spurdog (Squalus acanthias).

For sea-bass in Scotland, no survey was carried out. Anecdotal information indicates that only small numbers of bass are caught in Scottish waters, predominantly in the southwest and that they do not comprise a significant component of UK bass catches, recreational or otherwise.

For cod in Scotland, a questionnaire survey of recreational charter boats was carried out in 2012.17 vessels from ICES area VI that carried 4- 12 anglers were asked for recorded catches.
[26 vessels carrying 6 - 12 anglers in ICES area IV were also approached.]

For salmon in Scotland, data from recreational fisheries are routinely collected and published by the Scottish Government. Salmon fishery statistics are obtained from returns made in response to an annual questionnaire sent to the proprietors or occupiers of salmon and sea trout fisheries under the provisions of section 64 of the Salmon and Freshwater Fisheries (Consolidation) (Scotland) Act 2003: In 2012 a total of 774 (92%) questionnaires were returned from Districts within area VI regarding the catch statistics of salmon and grilse.

Data are combined geographically into 109 Districts around Scotland which are further aggregated into 11 Regions. Districts correspond either to a single river catchment together with adjacent coast or to groups of neighbouring river catchments.
Rod & line fisheries were asked to provide the monthly numbers and total weights of those salmon and grilse which were legally caught then released.
The catch data are collected to provide a measure of the performance of the 3 legal types of salmon and sea trout fisheries (i.e. fixed engines, net and coble and rod and line). In addition, interpretation of the catch trends is used to infer trends in the status of the stocks underpinning the fisheries. This information is vital nationally for managing Scottish stocks and

internationally for managing fisheries in international waters. The latter is facilitated through expert groups in ICES (assessment role) and through NASCO (management role).

Northern Ireland

An online questionnaire survey of recreational fishing was started in 2012.

III.D.2 Data quality: Results and deviation from NP proposal

England: All surveys were conducted as planned, with the exception of the charter boat survey which did not commence until August. This delay was caused by a decision during 2012 to subcontract the work, which involved a considerable delay. The survey is continuing into 2013. Numbers of private boats sampled during the on-site survey were less than anticipated due to the diffuse activities and brief time windows for sampling. Additional data on catch rates for these anglers were obtained from the quarterly on-line surveys.

Scotland: a survey was conducted. The results were not encouraging but this was not unexpected as the questionnaires were sent out late in the angling season.
Of the vessels approached some had gone out of business and many concentrated on chartering for diving trips or eco-tourism. The skippers reported that very few cod were caught on their limited fishing charters, which did not target cod. The survey will be continued and extended in 2013.

Northern Ireland: survey returns have been relatively low so far.

III.D.3 Follow-up of Regional and international recommendations

Not applicable

III.D.4 Actions to avoid shortfalls

England: Due to delayed start of charter-boat survey, the survey is extending into 2013 to achieve 12 months sampling. Additional information, including for months not sampled, and including cod and seabass catches, is obtainable from the ONS population survey and the on-line surveys.

Scotland: Vessels were approached late in the season.
For 2013 skippers of vessels were phoned, emailed and sent new questionnaires before the recreational fishery season started. They will be contacted throughout the chartering season. An attempt will be made to assess activity of private boats.

Northern Ireland: Further efforts to monitor this sector will be conducted as part of a national inshore management initiative.

III.E Stock-related variables

North Sea and Eastern Arctic

III.E.1 Achievements: Results and deviation from NP proposal

Table III E.3 gives the planned and achieved sampling of species for stock related variables (age, weight, sex ratio, maturity and fecundity). Sex ratios, maturity and fecundity are referenced to age for all species that can be aged, and to length for other species listed (for example *Nephrops* and elasmobranchs). CVs are presented for biological samples where there were adequate samples sizes and where the statistical models used were able to converge. Data sources for each parameter are listed in the Table. Data on maturity and sex ratio were collected primarily from the standard surveys, with additional material collected from commercial fishery catches where appropriate, particularly for species where numbers collected on surveys is inadequate. Species for which triennial sampling is required are indicated in Table III E.2 in the NP.

The majority of stock-based variables are obtained from sampling at sea on research vessels in order to obtain data representative of the population. Sampling achievement is therefore totally dependent on the catches of the species on the surveys and the staff time available between tows to process multiple species. Under-sampling by more than 10% can be explained by low catches or logistical constraints of working with many species. Over-sampling by more than 50% compared to the set targets can occur especially where the targets are modest but catches are sufficiently large to allow the sampling rate to be expanded at no additional expense (as the survey staff costs are fixed).

III.E.2 Data quality: Results and deviation from NP proposal

The achieved sampling was balanced across precision levels 1, 2 and 3, i.e. the DCF specified precision level of 3 for mean weight and length at age, maturity and sex ratio most stocks was only partially met. Achieving precision level 3 for all stocks would require a level of sampling that was physically impossible for so many species given the available catches and time available on standard research surveys. The required precision may be achieved through the combination of samples collected by several member States where there are multiple surveys as in the North Sea IBTS.

III.E.3 Follow-up of Regional and international recommendations

RCMNS&EA_SV_01: Stock variables: investigate opportunities for task sharing age reading	
RCM NS&EA 2011 Recommendations	The RCM NS&EA recommends that the task sharing species are investigating by MS participating in current age reading programs and decide whether task sharing is desirable or possible for the future.
Follow-up actions needed	MS to investigate each task sharing opportunity with specific MS taking responsibility for each species and report for the chair of RCM NS&EA
Responsible persons for follow-up actions	Each MS noted in column labelled “Leading countries” to liaise with MS without expertise for that species.
Time frame (Deadline)	1 December 2011

UK action. The UK currently task shares on age determination with NLD, BEL and SWE (from Jan ’12). All current agreements are detailed in the UK bilaterals provided with the UK DCF Proposal.

PGCCDBS Recommendation	PGCCDBS recommends the creation of a HTML version of Annex 8 to facilitate the long-term planning of age reading workshops, the update and simplification of Annex 9, and the construction of a HTML version in which coloured cells will contain links to existing age calibration Exchange and Workshop reports. This tool should be constructed in collaboration with the ICES Secretariat, and hosted on the PG docs repository Aimed at ICES sec and W. McCurdy By March 2011

UK response**:** Long term planning tool completed for PGCCDBS 2012

Stock related variables: Potential bilateral agreements on sampling of landings abroad	
RCM NS&EA 2012	Where it was identified that bilateral agreement is required, according to the rules agreed upon at the RCM NS&EA 2011 and endorsed by the LM8 and STECF 11-19, MS are requested to establish or update a bilateral agreement on sampling of landings abroad
Follow-up actions	MS to evaluate the need for such an agreement based

	on the overview provided by the RCM NS&EA (Annex No ??)
Responsible persons for follow-up actions	MS
Time frame	Annually. Before deadline for compilation /amendment of NP

All current and proposed UK bilaterals are detailed in the derogations Annex 3

III.E.4 Actions to avoid shortfalls

There is a need for an internationally collaborative exercise to evaluate the coverage and precision obtained from the international collection of samples for growth, maturity, fish condition etc, in order that national targets can be optimised. Currently, international coordination of sampling involving the UK is only for age-length data for VIId sole.

III.E Stock-related variables

North Atlantic

III.E.1 Achievements: Results and deviation from NP proposal

Table III E.3 gives the planned and achieved sampling of species for stock related variables (age, weight, sex ratio, maturity and fecundity). Sex ratios, maturity and fecundity are referenced to age for all species that can be aged, and to length for other species listed (for example *Nephrops* and elasmobranchs). CVs are presented for biological samples where there were adequate samples sizes and where the statistical models used were able to converge. Data sources for each parameter are listed in the Table. Data on maturity and sex ratio were collected primarily from the standard surveys, with additional material collected from commercial fishery catches where appropriate, particularly for species where numbers collected on surveys is inadequate. Species for which triennial sampling is required are indicated in Table III E.2 in the NP.

The majority of stock-based variables are obtained from sampling at sea on research vessels in order to obtain data representative of the population. Sampling achievement is therefore totally dependent on the catches of the species on the surveys and the staff time available between tows to process multiple species. Under-sampling by more than 10% can be explained by low catches or logistical constraints of working with many species. Over-sampling by more than 50% compared to the set targets can occur especially where the targets are modest but catches are sufficiently large to allow the sampling rate to be expanded at no additional expense (as the survey staff costs are fixed).

III.E.2 Data quality: Results and deviation from NP proposal

The achieved sampling was balanced across precision levels 1, 2 and 3, i.e. the DCF specified precision level of 3 for mean weight and length at age, maturity and sex ratio most stocks was only partially met. Achieving precision level 3 for all stocks would require a level of sampling that was physically impossible for so many species given the available catches and time available on standard research surveys. The required precision may be achieved through the combination of samples collected by several member States where there are multiple surveys as in the North Sea IBTS.

III.E.3 Follow-up of Regional and international recommendations

DCF Requirements	
RCM NA 2011 recommendation	RCM NA recommends that the collection of otoliths of John Dory is continued but not proceed with age readings until an agreed standardized method is developed.
Follow-up actions needed	All MS having catches of John Dory to collect otoliths
Responsible persons for follow-up actions	All MS
Time frame (Deadline)	None

UK action: Otoliths of john dory (*Zeus faber*) are collected on all surveys undertaken by the UK.

Stock variables : Regional collection	
RCM NA 2011 Recommendation	RCM NA recommends all MS to have a careful look at the tables in annex VII, in order to identify stocks for which an agreement would improve the sampling scheme.
Follow-up actions needed	MS to identify bilateral agreement, contact NC and propose such agreement in their NP proposal for 2012
Responsible persons for follow-up actions	All MS
Time frame (Deadline)	October 2011

UK action: The UK continues to discuss possible bilateral sampling agreements with other MS and all current agreements are included with the NP.

Stock variables : Sampling intensities	
RCM NA 2011 Recommendation	RCM NA recommends an inter sessional study on combining the biological data in FishFrame, and estimating the biological parameters at the stock level. Blue whiting (*Micromesistius poutassou*) was listed as a candidate due to the number of MS having sampling obligations.
Follow-up actions needed	MS having blue whiting samples
Responsible persons for follow-up actions	Coordinator to be found by chair of RCM NA
Time frame (Deadline)	May 2012

UK comment: the work wasn't done in advance of the meeting and due to incomplete data in the RDB, the work couldn't be done at the RCM itself. No further action was planned by the RCM.

Stock related variables: Setting up of Bilateral agreements	
RCM NA 2012 Recommendation (RCMNA 4)	RCM NA recommends MS put in place bilateral agreements for sampling of landings abroad where applicable.
Follow-up actions needed	Include bilaterals in the revised NP proposals
Responsible persons for follow-up actions	MS
Time frame (Deadline)	31 Oct 2012

All current and proposed UK bilaterals are detailed in the derogations Annex 3

Stock related variables: Setting up of Pilot programmes for sampling of Boar fish Capros aper	
RCM NA 2012 Recommendation (RCMNA 5)	RCM NA recommends MS involved and that have obligations in the Boar fish fishery to set up a pilot program for sampling.
Follow-up actions needed	Include pilot study in the revised NP proposals
Responsible persons for follow-up actions	MS fishing Boar fish
Time frame (Deadline)	31 Oct 2012

UK comment: In 2012 the UK only had 5 landings of boar fish – all were landed into Denmark for first sale. 3 of the landings were sampled by Denmark

III.E.4 Actions to avoid shortfalls

There is a need for an internationally collaborative exercise to evaluate the coverage and precision obtained from the international collection of samples for growth, maturity, fish condition etc, in order that national targets can be optimised. Currently, international coordination of sampling involving the UK is only for age-length data for VIIa sole.

These issues revolve around planning and coordination in a number of ICES coordinated surveys. The solution to avoiding shortfalls in the present situation is to ensure that the planning groups for these surveys, e.g. IBTSWG and WGIPS, include in their terms of reference a specific requirement to coordinate the collection of these samples. That is a very clear route to ensuring greater regional coordination as required under DCF / DC-MAP.

III.F Transversal variables

III.F.1 Capacity

In the UK, the Registry of Shipping and Seamen (RSS) and the corresponding registries in the Channel Islands and Isle of Man collect and maintain information on registered fishing vessels including their gross tonnage and their maximum continuous engine power as defined in Council Regulation 2930/86, as amended by Council Regulation 3259/94. These data are made available to Fisheries Departments and are used to meet this requirement for data. The data are provided to the Commission under Regulation 2090/98 and include information on the age of the fishing vessel. The UK supplies this information to the Commission as its returns to the EU Fishing Vessel Register, available on-line at: http://ec.europa.eu/fisheries/fleet/index.cfm

III.F.1.1 Achievements: Results and deviation from NP proposal

The type of data collection is exhaustive, drawing upon vessel register and logbook activity data, so that all registered vessels are covered. As such there was no shortfall compared with what was planned and the variability and bias indicators columns in Table III.F.1 are effectively redundant as they relate to providing an indicator of the accuracy and bias of the collection method which is exhaustive.

III.F.1.2 Data quality: Results and deviation from NP proposal

The bulk of the UK fishing fleet are registered and operate from the UK mainland and are thus registered by the UK Marine and Coastguard Agency who operate the UK Register of Shipping and Seamen. More information on their procedures can be found on-line at:

http://www.mcga.gov.uk/c4mca/ukr-home.htm

Data quality assurance procedures are built into the registration process. For example, every UK fishing vessel must be surveyed before it can be registered. The general principle followed is for this to be carried out by specially employed surveyors from the RSS, but in certain circumstances an external surveyor may be allowed. This survey process includes the validation of the physical measurements and capacity of the vessel both in tonnage and engine power terms. In addition, as part of supplying data to the EU fishing Vessel Register there are set quality control checks that data submissions must go thorough before submitted data is regarded as acceptable. Details of these business rules can be obtained from the Commission.

III.F.1.3 Actions to avoid shortfalls

No specific actions have been taken.

III.F.2 Effort

Information about effort is derived from logbook activity data.

For over 10m vessels the three key official documents (Community logbooks, landings declarations and sales notes) are the key source for transversal variables. For effort variables, the community logbook is the key source of data. Administrations systems have been developed such that for any particular fishing gear reported on the logbook there are several associated effort elements that should be reported by fishermen on their logbook, and then captured in the data entry process. These additional effort variables, when combined with system variables automatically generated when the data is entered (e.g. days of fishing activity) and when the activity of vessels are linked to the vessel capacity data, allow nearly all of the variables within the fishing effort heading of Appendix VIII to be derived. For example, for towed gears such as demersal trawls, details of the number of hauls and length of time for the haul are collected. For beam trawl gear additionally information is collected on the length of the beam used. For towed lines details of the numbers of lines, hauled, and numbers of hooks per lime are collected.

Additionally the UK has been introducing the requirements to collect data electronically as introduced by Council Regulation (EU) No. 1966/2006 and subsequent implementing regulations related to the reporting of sales notes, logbooks and landing declarations. These new sources have been integrated into the UK reporting systems via the establishment of an electronic hub for the reporting of data. More information on this project is available at:

http://www.marinemanagement.org.uk/fisheries/monitoring/electronic.htm

III.F.2.1 Achievements: Results and deviation from NP proposal

The type of data collection is exhaustive, so that all registered vessels are covered. As such there was no shortfall compared with what was planned and the variability and bias indicators columns, in Table III.F.1 are effectively redundant as they relate to providing an indicator of the accuracy and bias of the collection method which is exhaustive.

III.F.2.2 Data quality: Results and deviation from NP proposal

The enforcement regime that operates in the UK to ensure logbooks are completed accurately helps to maintain the quality of the data being reported for mandatory variables. As such the absence of any identified errors in the reporting of key variables is pursued with the owners and operators of the vessels to ensure accurate data is reported.

However, as many of the more detailed effort variables are of a voluntary nature rather than compulsory, there are instances where the full information may not be reported by fishermen for all of the required effort fields. In these instances, as the data entry of this information is by staff at port offices local to the fishermen's usual base of operations, they are able to contact the fishermen to obtain estimates of the missing data. When entered, such information is identified on the system as either supplied or estimated, and as such the quality of the data can be assessed when used.

UK fisheries authorities introduced during 2006 a system of integrated databases bringing

together into a single UK system the information on UK fishing vessel activity at sea, landings and sales of fish. These data systems know as IFISH (Integrated Fisheries System Holding data warehouse) and MCSS (Monitoring Control and Surveillance System) are the main sources for the effort data required for the various fleet segments of the UK fleet.

III.F.2.3 Follow-up of Regional and international recommendations

RCMNS&EA_TV_02: Transversal variables	
RCM NS&EA 2011 recommendation	As some of the transversal variables to be collected according to the DCF are collected according to the Control Regulation N0. 404/2011 and these variables the not always are defined equally according to the two regulations the RCM NS&EA 2011 recommends: Variables **Hours fished** and **soaking time** should be added to Control Regulation 404/2011 (CR) and be included in the logbook as mandatory variables. The variable **Fishing time** might be excluded as this information is not used unless fishing authorities need this information. Variables **Number of hooks and lines, Number of pots and traps, number of rigs** should be defined more clearly in Control Regulation and for the purpose of the DCF reference to the CR could just be made. Concerning **Number and height of nets**, a more comprehensive approach is available in Control Regulation namely **length, height and mesh size of the nets**. This should be included in DCF by a reference to Control Regulation Use of **selective devices** should be mandatory reported in the logbook. **Number of fishing operations** should be included for all active gears in DCF (now only purse seine)
Follow-up actions needed	Logbooks should be further developed and updated in order making it possible for the fishers to record information needed for both the CR and the DCF. In the short term some of improvements may be reached nationally, as member states may change the optional fields of logbook as mandatory. Updating of DCF is also needed. In midterm, legislative updates are needed
Responsible persons for follow-up actions	In short term: NCs are requested to report back to the national control authorities on this issue and report back to the RCM NS&EA meeting in 2012 For the legislation process: Liaison meeting > STECF > the EU Commission
Time frame (Deadline)	ASAP

UK Response: The information collected under the Control Regulations (1224/2009 and 404/2011) are used in the calculations for transversal variables whenever available. With regards to the recommendation to make optional variables within the logbook scheme into mandatory variables, this principle is difficult to apply within the UK where there is government

policy to only make mandatory within the UK that which is either specified within EU legislation or needed within the UK for control purposes – this principle is in place to ensure that a minimal burden of such requirements is placed on the UK fishing industry. Much of the additional information needed under transversal variables does not fall within either category and as such for the purposes of the DCF it will not be possible to make these variables mandatory. As such procedures are being developed for the estimation of these additional variables. Where possible this will build on procedures already in place to collect data at the vessel level to allow more specific estimation algorithms to be developed - in the meantime local knowledge on average values for these variables combined with the available information on vessel activity will be used in the estimation of transversal variables when necessary.

III.F.2.4: Actions to avoid shortfalls

The introduction of the IFISH and MCSS systems mentioned above was accompanied by the creation of the UK Cross Check Management System. This is an automated system of cross-checks between the information reported within the three key administrative documents mentioned (logbooks, landings declarations and sales notes) along with additional checks with other sources of data – for example, with satellite tracking data and information from aerial and at-sea surveillance and inspection activity carried out by UK enforcement officers. These checks are automated and fully documented and reflect the various statutory requirements under EU legislation for such checks to be carried out – for example, the system carries out the required check between quantities recorded in the EU logbook and that recording in the landing declaration for each trip to check the compliance with the required tolerance levels.

Within the UKCCMS, each discrepancy identified has the potential for being evidence of an offence having been committed. Due to this, each is investigated by enforcement officers to assess the need for further action, hence the fact that they are fully documented. The UKCCMS is regarded as a major mechanism to ensure full compliance with reporting obligations. There are also additional data quality checks that are carried out in addition to the UKCCMS (e.g. checks with producer organisations that are mentioned as well as others), but these are not contained within a fully documented specific IT system. If any revisions or corrections are identified as necessary from any of the checking systems, these are implemented.

III.F.3 Landings

Data on landings by 10m and over vessels are derived from the combination of the community logbook, landing declarations and sales notes. These provide the key details on the species, presentation, weight and value of fish being landed that is entered onto computer systems at local port offices. The current sets of conversion factors incorporated in UK data entry systems are included in Table III.F.2. For information, the UK has implemented the requirements of Commission Regulation 409/2009 and introduced the use of harmonised conversion factors for certain key species and presentations. As such Table III.F.2 includes these harmonised factors and national factors as well – the UK applies article 4 of the regulation in terms of when the harmonised conversion factors or alternate factors are used

when data is processed onto UK systems.

Landed weights are used as the initial entered data, with live-weights calculated as the products of the landed weight and the appropriate conversion factors for that species and presentation of fish involved. The total landed weight of each species is taken from the landing declaration. Sales notes information give the details of the breakdown of the landed weight of each species in term of each presentation (and grade) sold. This proportionate breakdown is then applied to the total weight for each species so that the total live weight equivalent of the total landed weight is then allocated across the presentation types seen for the landing.

For vessels of 10m and under overall length, the source of data on landings is as detailed in Section II.F.2. A similar process is used as for over 10 vessels, with the exception that in most cases the landed weight of fish is derived from the quantities of landed weight of fish reported in sales notes rather than landings declarations. The same conversion factors as used for over 10m vessels are then applied to the details of species, landed weight and presentation from sales notes to give live weight equivalents of the landed weight.

Average prices for each species are calculated on the basis of live-weight quantities. This effectively weights the overall price thus calculated to the most prevalent presentation used for landings each species for both over 10m vessels and 10m and under vessels.

III.F.3.1 Achievements: Results and deviation from NP proposal

The type of data collection is exhaustive, drawing upon vessel register and logbook activity data, so that all registered vessels are covered. As such there was no shortfall compared with what was planned and the variability and bias indicators columns, in Table III.F.1 are effectively redundant as they relate to providing an indicator of the accuracy and bias of the collection method which is exhaustive.

III.F.3.2 Data quality: Results and deviation from NP proposal

The same quality control procedures as described in Section III.F.2.2 apply.

III.F.3.3 Follow-up of Regional and international recommendations

There are no recommendations that the UK has been actioned to follow up.

III.F.3.4 Actions to avoid shortfalls

The same actions as in Section III.F.2.4 apply

III.G Research surveys at sea

III.G.1 Achievements: Results and deviation from NP proposal

The following section provides descriptions of the achievements of UK planned surveys listed in Appendix IX of Commission Decision 2008/949/EC, and given in Table III.G.1. Full descriptions of the surveys were provided in the UK proposals for 2002 & 2003. The official survey names from DCF Appendix IX have been used and, for sake of clarity, the 'national' survey names included in brackets. It should be noted that in some cases, two or more of the surveys given here belong to a single survey heading in DCF Appendix IX.

North Sea (ICES areas IIIa, IV and VIId) and Eastern Arctic (ICES Areas I& II

International Bottom Trawl Survey IBTS Q1; Areas IV, IIIa; 1st Quarter (Scottish International Bottom Trawl Survey)

Aims: A pre-recruit survey undertaken during Q1 in the North Sea as one component of the ICES International Bottom trawl survey (IBTS). The survey is targeted towards young (1-group) cod, haddock, whiting, saithe, Norway pout, herring, sprat and mackerel by utilising a GOV trawl fitted with an internal 20 mm liner. It provides estimates of abundance to the North Sea and Skagerrak demersal fish working group. In addition pre-metamorphosing herring larvae are sampled at night by deploying a Methot mid-water net.

Data Collection: the survey was undertaken by MRV *Scotia*. In the NP it was mistakenly reported that 23 days were planned. Only 22 days were planned (same as 2011). 22 planned days were completed and 55 semi-randomly selected stations were completed from a planned 52 hauls using a GOV trawl.

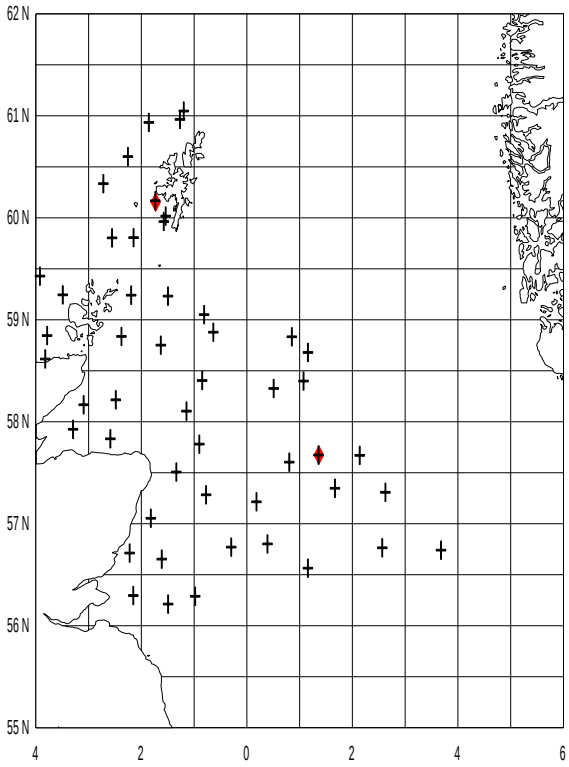
Hydrographic information was continuously recorded throughout the survey and water samples collected for analysis of salinity, nitrate, silicate and phosphate. Numbers at length and age were recorded for all target species with all other fish species being measured and counted. Further biological data were gathered for species listed in Appendix VII of the Data Collection Framework. In addition shellfish and benthic species were counted. 124 hauls were achieved using a Methot net to assess the abundance of pre-metamorphosing herring larvae in the survey area.

The indices were provided to the demersal assessment working group WGNSSK.

Data Storage: data are stored electronically in Marine Scotland Science (MSS) data banks with a copy being sent to ICES for storage in the DATRAS database. Plankton samples (from Methot net) are stored in a dedicated building onsite.

Suitability of the survey for the calculation of the ecosystem indicators 1 to 4 listed in DCF appendix XIII: YES

Scottish Q1 2012 North Sea IBTS area IV survey map



International Bottom Trawl Survey IBTS Q3; Areas IV ; 3rd Quarter (English International Bottom Trawl Survey)

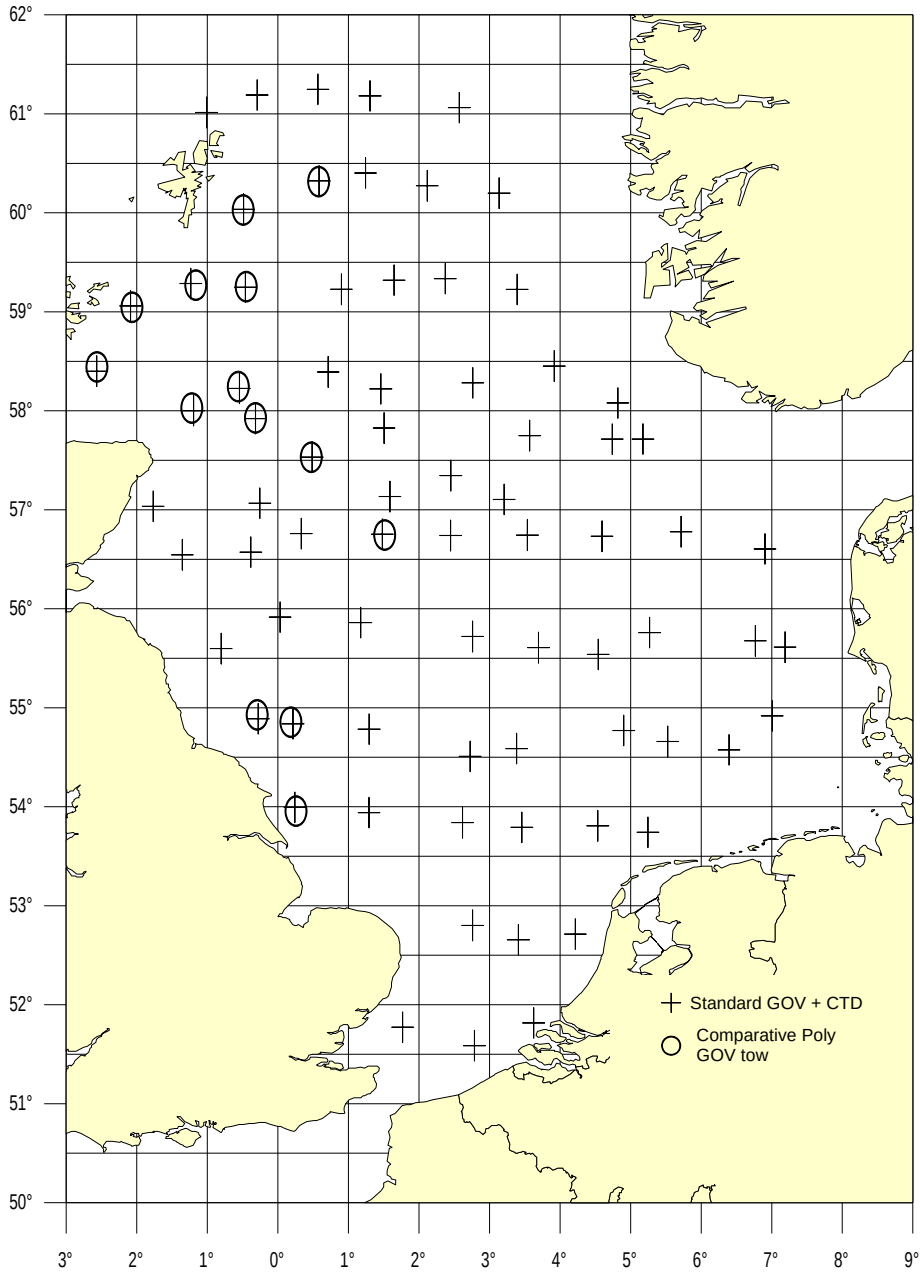
Aim: The survey provides estimates of abundance of recruiting year classes and CPUE-at-age series for cod, haddock, whiting, and Norway pout to the North Sea and Skagerrak Demersal Working Group (WGNSSK). These are used for tuning purposes.

Data Collection: 32 days and 75 prime stations were fished in area IV between 51 to 62 deg. N, and between 4 deg. W to 8 deg. E. All fish caught will be identified to species and measured. Age samples and biological parameters were taken from all target species and species listed in DCF Appendix VII (total of 7301). Hydrographic data was collected at each station. Anthropogenic waste material was recorded and weighed.

Data Storage: The resultant data was input to a computer database using the Cefas Electronic Data Capture System. All catch and biological data was also be transmitted to ICES for input to the DATRAS database.

Suitability of the survey for the calculation of the ecosystem indicators 1 to 4 listed in DCF appendix XIII: YES for indicators 1-3. Maturity data for Q3 suitable for only a few species.

3rd Quarter English IBTS Areas IV, IIa: 2012 station map



International Bottom Trawl Survey IBTS Q3; Areas IV, IIIa; 3rd Quarter (Scottish International Bottom Trawl Survey)

Aims: A pre-recruit survey undertaken during Q3 in the North Sea as one component of the ICES International Groundfish survey. The survey is targeted towards young (0 and 1-group) cod, haddock, whiting, saithe, Norway pout, herring and mackerel by utilising a GOV trawl fitted with an internal 20 mm liner. It provides estimates of abundance to the North Sea and Skagerrak demersal fish working group.

Data Collection: the survey was undertaken by MRV *Scotia*. 22days and 87 hauls were completed where semi-randomly selected stations were surveyed with the deployment of a GOV trawl for 30 minutes each haul. (NP mistakenly plans 23 days for this survey but nationally the planned days were the same as in 2011)

Numbers at length and age were recorded for all target species with all other fish species being measured and counted. Further biological data were gathered for species listed in Appendix VII of the Data Collection Framework. In addition shellfish and benthic species were counted.

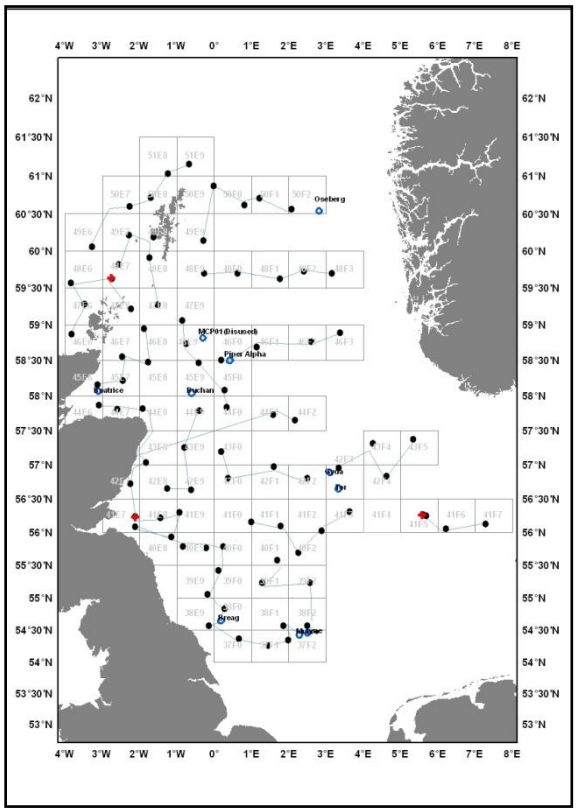
A thermosalinograph ran continuously throughout the survey to collect hydrographic information of the area. Benthic samples were collected at night after fishing was complete.

All data were provided to the demersal assessment working group WGNSSK.

Data Storage: data are stored electronically in MSS data banks with a copy sent to ICES for storage in the DATRAS database.

Suitability of the survey for the calculation of the ecosystem indicators 1 to 4 listed in DCF appendix XIII: YES for indicators 1-3. Maturity data for Q3 suitable for only a few species.

Scottish Q3 2012 North Sea IBTS area IV survey map



North Sea Beam Trawl Survey BTS; Areas IVc, VIId; 3rd Quarter (English Beam Trawl Survey)

Aims*:* To provide estimates of abundance of recruiting year classes and CPUE-at-age series for plaice and sole to the North Sea and Skagerrak Demersal WG (WGNSSK). These are used for tuning purposes.

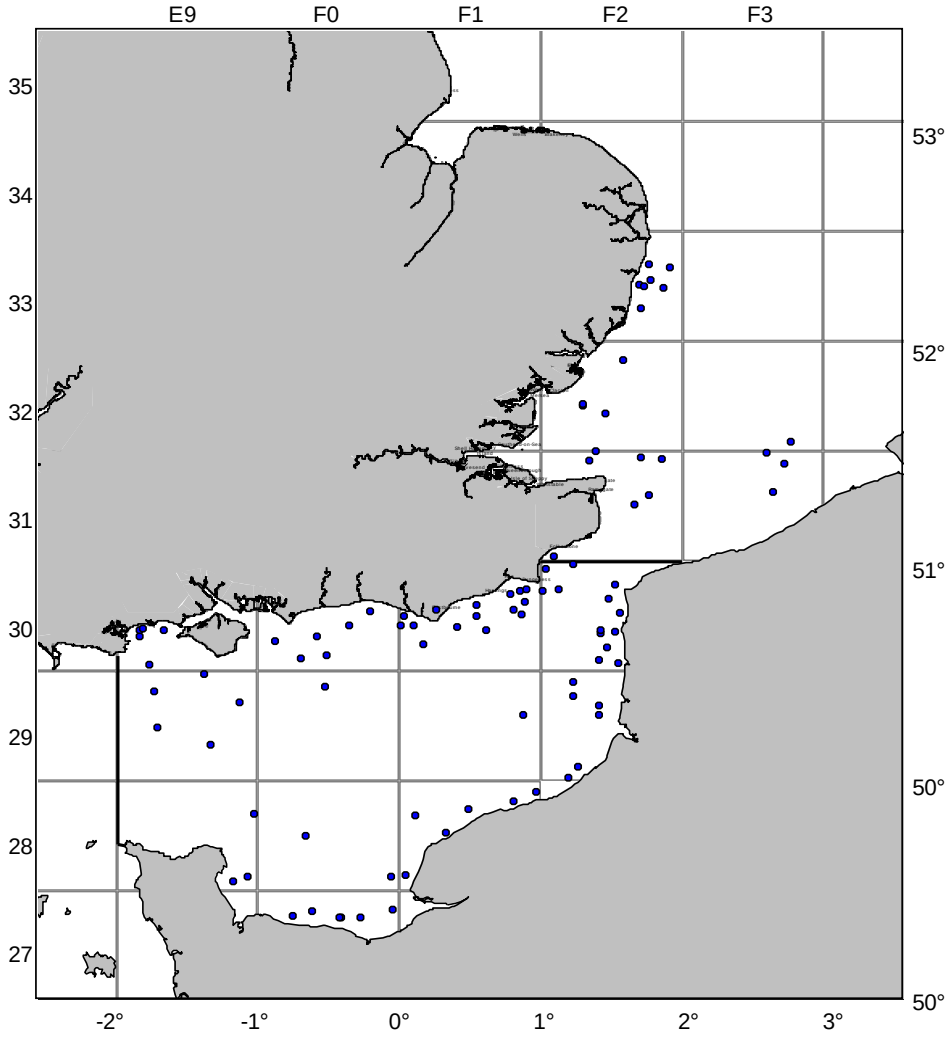
Data Collection: 84 stations were fished and all fish caught were identified to species and measured. Age samples and biological parameters were taken from all target species and species listed under Appendix VII of the DCF which are caught (total of 2445 biological samples). Benthos and crustacea was identified to the species level wherever possible and recorded as present. Hydrographic data was collected at the first and last station of the day,

using the profiling CTD and on each haul from a mini-CTD attached to the beam trawl.

Data storage: Data is held on a surveys database at Cefas and provided in summarized form to the WGNSSK. The resultant data was input to a computer database using the Cefas Electronic Data Capture System. All data will was transmitted to ICES for input to the DATRAS database.

Suitability of the survey for the calculation of the ecosystem indicators 1 to 4 listed in DCF appendix XIII: YES for indicators 1-3. Maturity data for Q3 suitable for only a few species.

North Sea BTS: English beam Trawl Survey map 2012



International Ecosystem Survey in the Nordic Seas; ASH; Area IIa; May

The UK contributed towards vessel costs according to the agreed funding formula for the ASH surveys. In addition Cefas provided one member of staff for the survey conducted by the Denmark. The results and chart can be seen within the Danish Reports for 2012

North Sea Herring Acoustic Survey NHAS; Areas IIIa, IV; June, July (Scottish NS Herring Acoustic Survey)

PLEASE NOTE: The survey design of this Marine Scotland herring acoustic survey and the corresponding survey in area VIaN were changed during 2011

Aims: to conduct an acoustic survey to estimate the abundance and distribution of herring in the north western North Sea (ICES area IV), north of Scotland and west of Scotland (ICES area VI) excluding Faroese waters.

The results are combined with those of Germany, Netherlands, Norway & Denmark to produce an age disaggregated abundance index for herring.

Data Collection: MRV *Scotia* completed 20 days of the acoustic survey and followed a pattern of parallel transects running east to west.

The plan was to survey approximately 2500 nautical miles at different frequencies and to deploy a pelagic trawl approximately 30 times (depending on fish marks observed) to 'ground truth' the acoustic data. Acoustic data were collected from 951 Elementary Distance Sampling Units (EDSU) approx 2400 Nm, compared to the planned 2500 Nm due to one day being lost. 27 fishing hauls were undertaken with over 7200 herring and all other species caught sampled. Hydrographic data were collected throughout the entire survey.

Explanation of changes to MSS herring acoustic surveys.

The proposed changes were presented to the Commission.

Marine Scotland Science (MSS) traditionally undertook two acoustic surveys each year to estimate the abundance and distribution of the two herring stocks around Scotland: the North Sea herring stock (ICES Division IV) and the west of Scotland herring stock (ICES Subdivision VIaN). Both are used to tune catch at age mathematical models at ICES AWGs. The data from the west of Scotland survey are the only tuning data for the catch at age model and have a time series going back to 1991. In recent years surveys have also been carried out by Northern Ireland and the Republic of Ireland to try to estimate the quantities of the various stock complexes which occur in ICES Division VI. For the North Sea survey, the data are combined with data from several other nations to form the most important tuning index for the assessment of the stock.

From 2011 MSS no longer had a charter budget for the area VI survey. See below how the two surveys are now combined into one on the MRV Scotia. In agreement, the Republic of Ireland survey, until now restricted to ICES subdivision VIaS, has been extended into VIaN as far as 58°30'N (west of the Hebrides and the Minches) so the full area is surveyed.

New survey design

The North Sea survey typically lasts 20-21 days and covers approximately 2500 nautical miles. In the case of an acoustic survey, the track length is relevant because it represents the sample size. The new survey design for 2011 is given below. In 2012 the new design planned

approx 2500 nautical miles of track, requiring 20 days. The redistribution of effort has an effect on the amount of survey effort directed at each component: the new design has a track length in the North Sea of 2272 nautical miles (c.f. 2400 n.mi. in 2010). The design can be modified to include elements of stratification in the light of further work into precision and in consultation with international colleagues. Once again discussions took place between Marine Scotland and the pelagic fishing industry for them to provide a vessel to shadow MRV Scotia to cover the tracks in ICES IV and VIa.

Precision

The possible effects on precision – best and worst scenarios - were also presented to the Commission and STECF with the proviso that definite CVs could not be certain without extensive simulation. Also precision would increase with the incorporation of another vessel.

Comment: the proposed changes in survey were presented to STECF for their consideration with the following reply in May 2011 from the Commission. "The STECF has favourably evaluated your request to carry out the survey with one vessel."

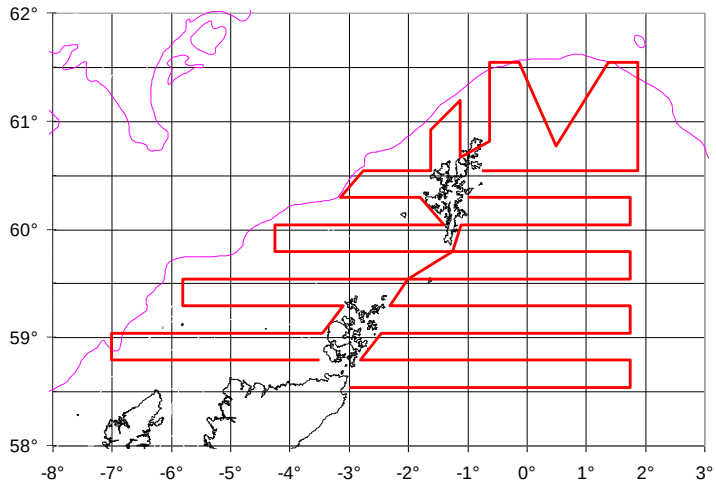
Outcome: Discussions were successful with the Scottish pelagic industry and the commercial vessel m/v Krossfjord was provided in 2012, at national expense, to shadow MRV Scotia (red line on 1st chart below) to fill in gaps in the acoustic track. The Krossfjord cruise (dotted line on 2nd chart below) is re-iterated under ***Spawning/Pre spawning Herring acoustic survey; VIa, VIIa-g; July, Sept, Nov, March, Jan (Scottish Spawning/pre-spawning Herring Acoustic Survey)***

This extra commercial vessel survey positively increased the precision of the data.

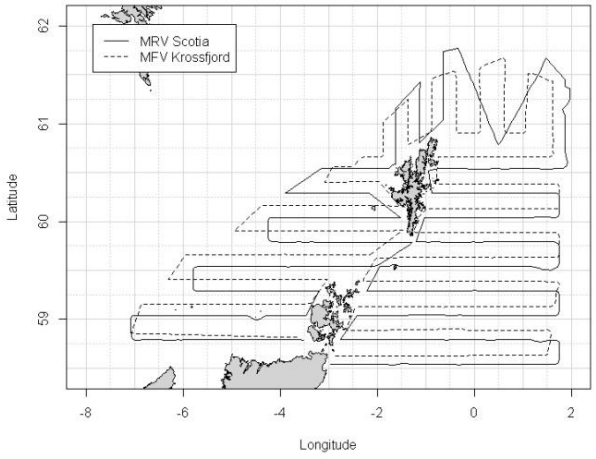
Data Storage: all acoustic data are stored in data banks at MSS. Subsequent post survey analysis was provided to the relevant ICES working groups.

Suitability of the survey for the calculation of the ecosystem indicators 1 to 4 listed in DCF appendix XIII: Yes for indicators 1 - 3 (mostly only target species caught but all species caught are sampled).

Accepted Scottish herring acoustic NS and NA survey map showing MRV Scotia track (using one ship)



Scottish 2012 herring acoustic North Sea and North Atlantic survey map (2 vessels)



Nephrops TV survey (FU 6) NTV6 IVb September. (CEFAS Farne Deeps Nephrops TV survey)

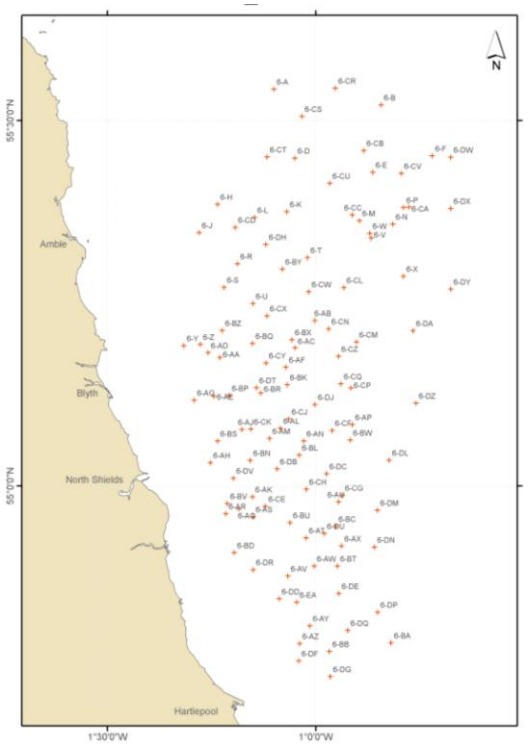
Aims: To provide fishery independent information on distribution and abundance of *Nephrops* in the Farne Deeps for use alongside analytical results by WGNEPH and to examine trends in stock size using underwater cameras. This survey is scheduled to occur in the North Sea during the third quarter.

Data Collection: On the Farne Deeps ground a total of 110 TV tows were carried out. Video data was collected on all stations. Of the 110 stations completed, 16 stations needed re-doing at least once but were successfully completed.

Data Storage: the video recordings were analysed and the results conveyed to the relevant ICES working groups.

Suitability of the survey for the calculation of the ecosystem indicators 1 to 4 listed in DCF appendix XIII: Not suitable

Cefas Farne Deeps Nephrops TV survey (FU 6) map



Nephrops TV survey (FU 7) NTV7 IVa 2nd or 3rd Quarter. (Scottish Fladen Nephrops TV survey)

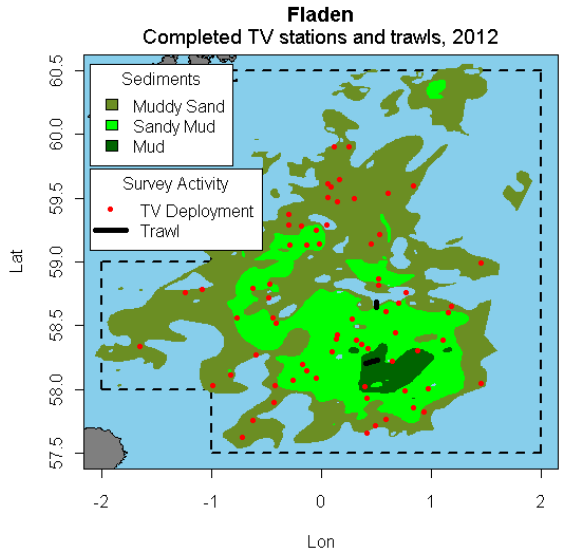
Aims: to obtain estimates of distribution and abundance of *Nephrops* in the Fladen Ground using underwater television. This survey is conducted by MRV *Scotia* undertaking one extensive survey that includes both the North Sea (IV) and the west of Scotland (VIa). However, for clarity, and to conform to the list of surveys in Appendix IX of the Data Collection Framework, the survey is divided into, and reported by, North Sea (FU7) and NE Atlantic (FU 11-13) sectors.

Data Collection: 9 days were allocated to survey the North Sea (ICES area IV) part of this integrated survey. The 2nd part of this survey which covers FU11, 12 and 13 is dealt with in separate text. 70 TV tracks were planned and completed. 3 of the planned 5 fishing hauls took place which was all that were required to collect samples within each sediment strata of the main survey area. 2 fishing hauls were completed at Devils Hole, south of FU7. Sediment samples were collected from all stations. Additionally, information on size at maturity was obtained as per Appendix VII of the Data Collection Framework and morphometric measurements were collected from 79 animals.

Data Storage: the video recordings were analysed and the results conveyed to the relevant ICES expert groups - North Sea Demersal WG (WGNSSK), WGNEPS - where they provide the major input to the *Nephrops* stock assessment.

Suitability of the survey for the calculation of the ecosystem indicators 1 to 4 listed in DCF appendix XIII: Not suitable

Scottish Nephrops 2012 TV survey FU7 map



***Nephrops* TV survey (FU 8) NTV8 IVb 2nd or 3rd Quarter. (Scottish Firth of Forth *Nephrops* TV survey) and *Nephrops* TV survey (FU 9) NTV9 IVa 2nd or 3rd Quarter. (Scottish Moray Firth *Nephrops* TV Survey).**

[NOTE: The surveys for Nephrops in FU8 and FU9 are undertaken as one survey. The results are presented separately below].

Aims: To provide fishery independent information on distribution and abundance of *Nephrops* in the Firth of Forth and Moray Firth for use alongside analytical results by SGNEPH and to examine trends in stock size using underwater cameras. This survey is scheduled to occur in the North Sea during the second or third quarter and is undertaken as one survey covering both FU8 and FU9.

Data Collection: The cruise was conducted by MRV *Alba-na-Mara* and took place over 15 days as planned. In the NP 80 tv tracks and 5 (maximum) fishing hauls were planned and the

survey achieved 112 tv tracks and 4 fishing hauls. The results were captured on video tape. Additionally, biological and morphometric data were obtained as per Appendix VII of the Data Collection Framework. 118 sediment samples were collected for analysis. The tv data are used for assessments.

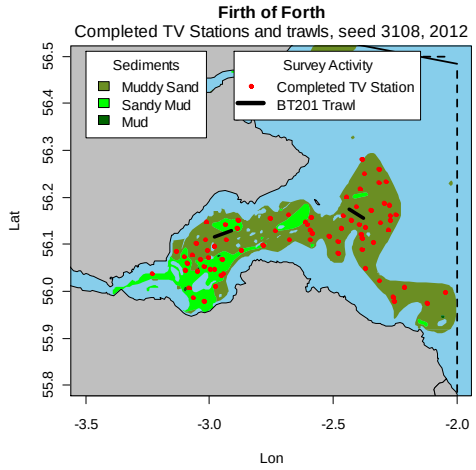
FU8 – 75 TV stations, 2 hauls, 72 sediment samples

FU9 – 47 TV stations, 2 haul, 46 sediment samples

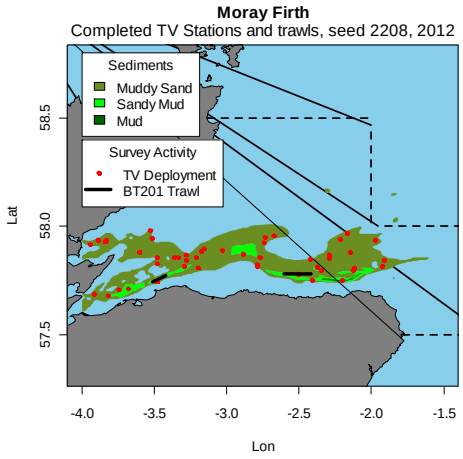
Data Storage: the video recordings were analysed and the results conveyed to the relevant ICES expert groups - North Sea Demersal WG (WGNSSK), SGNEPS - where they provided the major input to *Nephrops* stock assessments.

Suitability of the survey for the calculation of the ecosystem indicators 1 to 4 listed in DCF appendix XIII: Not suitable

Nephrops 2012 TV survey FU8 map



Nephrops 2012 TV survey FU9 map



North Atlantic (ICES Areas V-XIV and NAFO areas)

Western IBTS 4th quarter; IBTS Q4; VIa, VII; 4th Quarter (Scottish Western IBTS)

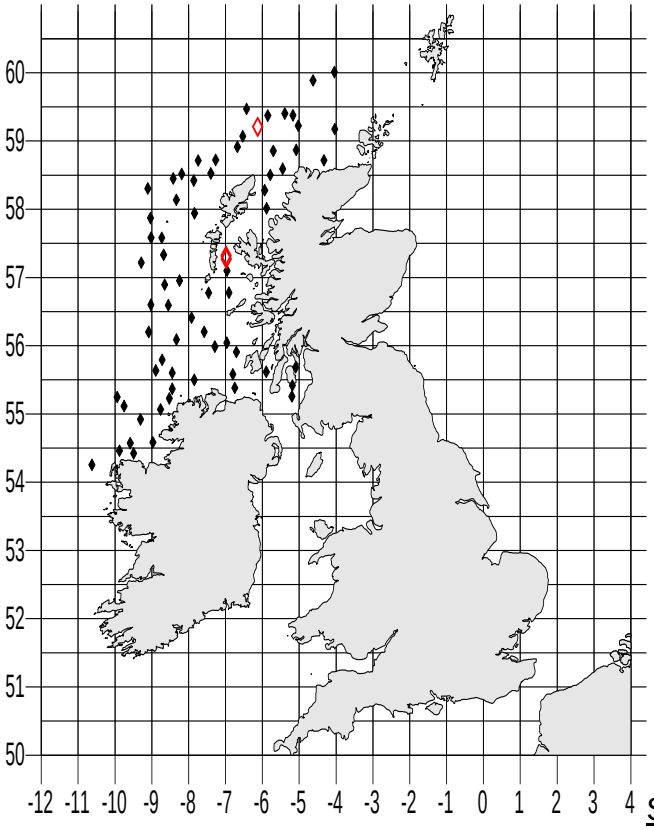
Aims: to participate in the ICES co-ordinated western division bottom trawl survey in quarter 4. The survey is very similar to the North Sea IBTS surveys and targets young (0 and 1-group) cod, haddock, whiting, saithe, Norway pout, herring and mackerel by utilising a GOV trawl fitted with an internal 20 mm liner. Hydrographic data are collected at each station.

Data Collection: the survey was undertaken by MRV *Scotia.* The cruise was scheduled in the NP for 23 days with a target of 81 fishing hauls. [the number of hauls in the NP is incorrect and had been revised to 70].The survey was cut to 22days, during which time the ship experienced moderate or poor weather conditions, and completed a total of 69 hauls successfully using a GOV trawl and adopting a form of random stratified survey design. There was a lot of gear damage throughout the survey.

A thermosalinograph ran continuously throughout the survey to collect hydrographic information of the area. Numbers at length and age were acquired for all target species with all other fish species being measured and counted. The data were provided to the Celtic Seas demersal fish assessment working group WGCSE. Further biological data were gathered for species listed in Appendix VII of the Data Collection Framework. In addition shellfish and benthic species were identified and counted.

Data Storage: data are stored electronically in MSS data banks with a copy sent to ICES for storage in the DATRAS database.

Suitability of the survey for the calculation of the ecosystem indicators 1 to 4 listed in DCF appendix XIII: YES for indicators 1-4. Yes for indicators 1 - 3.



Scottish Western IBTS area VI Q4 2012 map

Western IBTS 4th quarter; IBTS Q4; VIa, VII; 4th Q (English Western IBTS)

This survey has been stopped and replaced in 2013 by a new survey in the first quarter in area VII. The following text is STECF response to the cutting of this survey.

STECF observations

STECF observations on Point 4 (Survey 2): STECF notes that the Western IBTS Quarter 4 survey is eligible for the DCF co-funding but has not been considered in any stock assessments as fishery independent information. The proposed change by the UK is to withdraw its English (CEFAS) part of the survey in 2012 and thereafter, while the Scottish part will be continued. Furthermore, the plan for 2013 is to restart, under the DCF, the English (CEFAS) bottom trawl survey in Q1 in the Celtic Sea which was not previously run under the DCR and was terminated in 2004. These changes are justified by UK because they deliver improved abundance indices in quarter 1 during the spawning season, and with the ability to collect biological information such as fish maturity.

STECF conclusions

STECF conclusions on Point 4 (Survey 2): STECF concludes that the proposed withdrawal of the UK (CEFAS only) contribution to the Western IBTS Q4 is in line with the developed survey review criterion 'to inform management decisions' (STECF, 2010). The Western IBTS Q4 survey has not been considered in any stock assessments and this is likely to remain the case. STECF concludes that the proposed withdrawal would contribute to maximize the effective use of both national budgets and the DCF budgets (national sampling plans for 2012 and 2013). Furthermore, STECF concludes that a review of the eligibility criteria for DCF-funding needs to be carried out to ascertain whether reinstatement of the Cefas Q1bottom trawl survey during quarter 1 in 2013 is eligible for DCF co-funding.

Scottish Western IBTS; IBTS Q1; VIa, 1st quarter (Scottish West Coast, Young Fish Survey)

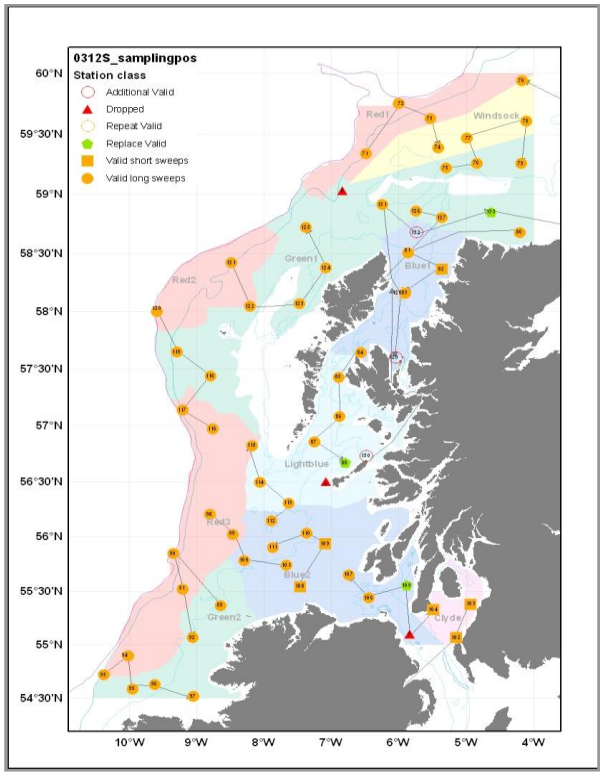
Aims: to survey ICES area VIa during quarter 1. The survey is almost identical to the corresponding survey in the North Sea and provides CPUE-at-age series for cod, haddock, whiting and saithe to WGCSE. These are used for tuning purposes. It also provides data for ages 1 & 2 mackerel to WGMHSA.

Data Collection: the survey was undertaken by MRV *Scotia.* The cruise was conducted over only 22 of the planned 23 days as the survey had been completed. 56 fishing hauls were planned and 64 were achieved. The trawl was deployed for 30 minutes per haul. A thermosalinograph ran continuously throughout the survey to collect hydrographic information of the area. Numbers at length and age were acquired for all target species with all other fish species being measured and counted. Further biological data were gathered for species listed in Appendix VII of the Data Collection Framework. In addition shellfish and benthic species were identified and counted.

All data were provided for use at the WGCSE (assessment working group for the Celtic Seas region).

Data Storage: data are stored electronically in MSS data banks with a copy sent to ICES for storage in the DATRAS database.

Suitability of the survey for the calculation of the ecosystem indicators 1 to 4 listed in DCF appendix XIII: YES for indicators 1-4. Yes for indicators 1 - 3.



Scottish Western Q1 2012 IBTS area VI survey map

ISBCBTS September; VIIa,f,g; September (Irish Sea & Bristol Channel Beam Trawl Survey)

Aims: To provide estimates of abundance of recruiting year classes and CPUE-at-age series for plaice and sole to the North Sea and Skagerrak Demersal WG (WGNSSK). These are used for tuning purposes.

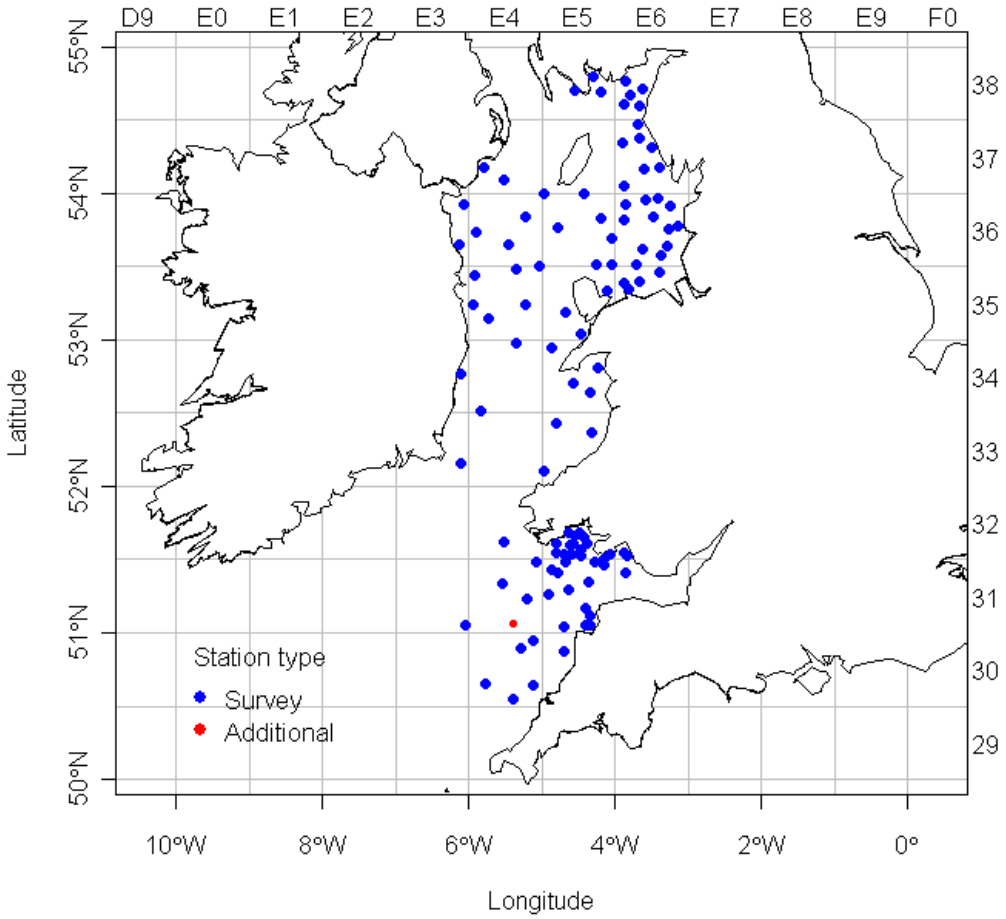
Data Collection: A total of 107 stations were fished. Age samples and biological parameters were taken from all target species and all species listed under Appendix VII of the DCF which are caught (total of 3731). Hydrographic data was collected at the first and last station of the day, using the profiling CTD and on each haul from a mini-CTD attached to the beam trawl.

Data Storage: Data is held on a surveys database at Cefas and provided in summarized form to the Northern Shelf Demersal WG (WGCSE). The resultant data is input to a computer

database using the Cefas Electronic Data Capture System. All data is transmitted to ICES for input to the DATRAS database.

Suitability of the survey for the calculation of the ecosystem indicators 1 to 4 listed in DCF appendix XIII: YES for indicators 1-3; maturity data in September suitable for only a few species.

ISBCBTS September; VIIa,f,g; map



WCBTS; VIIeBTS; October (Western Channel Beam Trawl Survey, VIIe, 4th quarter)

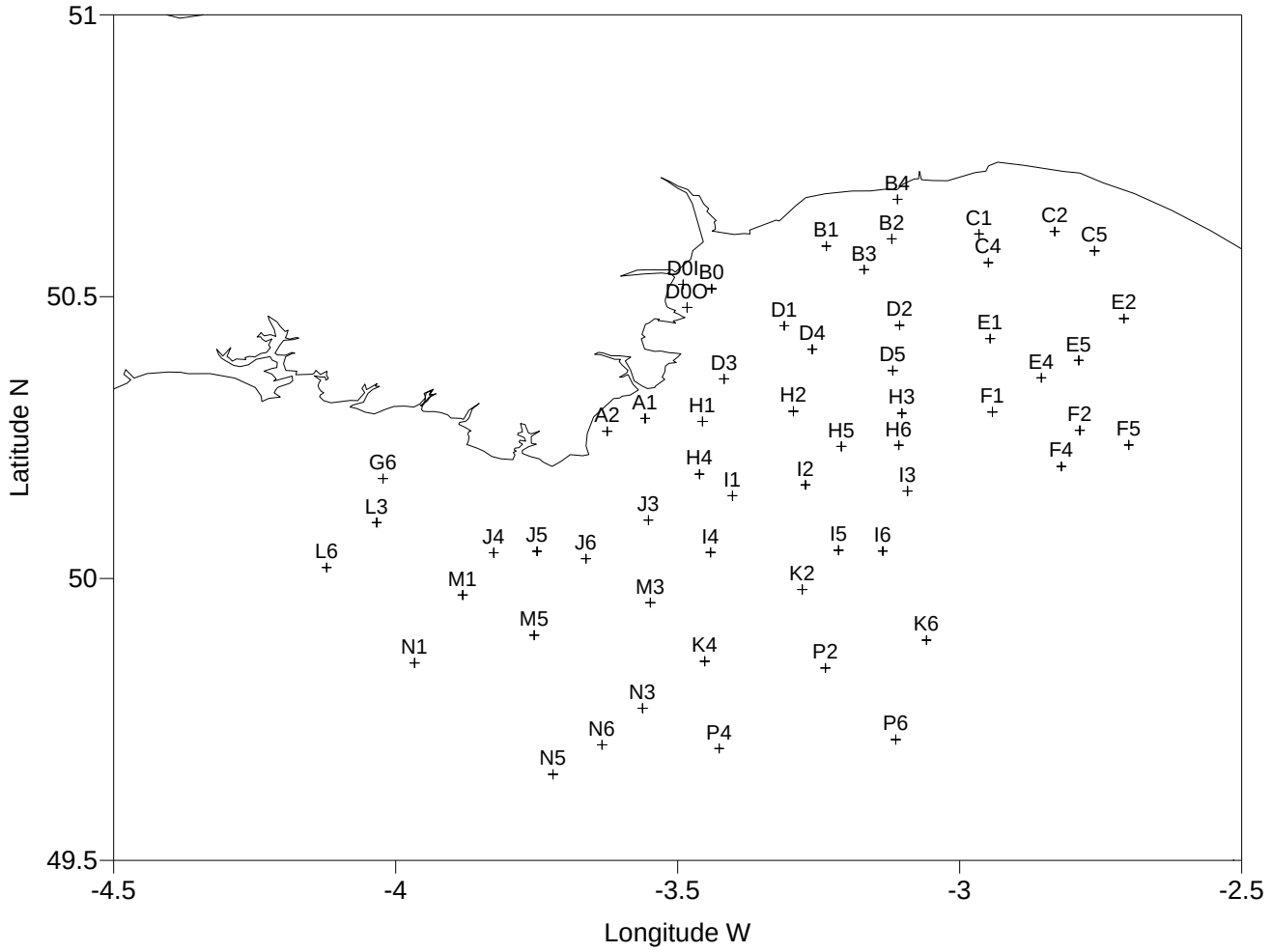
Aims: The survey provides CPUE-at-age series for plaice and sole to the ICES Southern Shelf WG for tuning and recruitment estimation purposes and distribution and abundance estimates

Achievements: 7 sea days and 58 hauls were carried out during the survey. Age samples and biological parameters were taken from plaice and sole, along with other target commercial species (total of 754). All other fish were identified to species and measured. Hydrographic data was collected at each station, using a mini CTD attached to the beam trawl.

Data Storage: Data is held on a surveys database at Cefas and provided in summarized form to the Celtic Sea Ecosystem Working Group (WGCSE) and to the Beam Trawl Survey WG (WGBeam)

Suitability of the survey for the calculation of the ecosystem indicators 1 to 4 listed in DCF appendix XIII: YES for indicators 1-3; maturity data in September suitable for only a few species.

Western Channel beam Trawl survey VIIeBTS map



Demersal Young Fish Survey; DYFS; coasts of NS; 3rd/4th Quarter (English Demersal Young Fish Survey) This survey has been removed from the bid for 2012 and 2013 and the following text is from the UK National Programme for 2011-13 which has previously been reviewed by STECF.

The justification for this change is as follows : the Demersal Young Fish Survey (DYFS) comprises a number of inshore surveys of 0-gp and 1-gp plaice and sole carried out by several countries including the UK, and covers waters within 6n.miles along the coasts of the southern North Sea and the eastern Channel. The UK has contributed only to the North Sea component since 2007. The use of this survey by ICES has in recent years been restricted to input to the RCT3 model for forecasting recruitment of plaice and sole. Since 2005, only the 0-gp indices have been used. The WGNSSK 2011 report (ICES CM 2011/ACOM:13) and earlier reports of WGNSSK show that the DYFS index has large prediction errors in RCT3 and often

has a low weighting. For the 2009 and 2010 year classes of North Sea plaice and sole, the 0-gp DYFS index gave the following results in RCT3:

Species	Year class	CV	R^2	weighting
Plaice	2010	0.91	0.27	12%
	2009	0.93	0.25	7%
Sole	2010	1.07	0.33	27%
	2009	1.06	0.33	5%

The predictions have very high CVs close to 1.0, and low R2. Although WGNSSK provides these results annually, and has used the RCT3 prediction for the 2009 plaice year class (where DYFS carries only 7% of the weight), it reverted to a geometric mean recruitment for estimating the 2010 year class of plaice and the 2009 & 2010 year classes of sole.

The WKFLAT 2010 benchmark assessment of North Sea sole (ICES CM 2010/ACOM:37) excluded the use the DYFS, but proposed that the use of the Cefas North Sea Beam Trawl Survey, which extends from VIId into IVc could be explored.

The STECF review of surveys (SGRN 10-03, October 2010) gave the DYFS relatively low scores for categories harmonisation, use in management, and data access. STECF also noted that although coordinated by WGBEAM, different widths of the shrimp trawls were being used by different countries: BEL: 6 m, GE: 3 m, NL: 3-6 m, UK-Eng: 2 m. The survey is entirely focussed on very inshore waters (inside 6 mile), and by its nature (chartering of very small vessels with limited working space) the UK survey is limited in ability to deliver any additional DCF/MSFD/GES indicators.

In view of the relatively small contribution of the DYFS to recruitment predictions for North Sea plaice, and the non-use of the survey by ICES for North Sea sole, it was considered there was no justification under current government spending controls to continue funding the survey at the expense of other DCF work that contributes more effectively to local and international fisheries management.

Blue whiting survey; VI, VII; 1st and 2nd Quarter

The UK contributed towards vessel costs according to the agreed funding formula for the Blue Whiting surveys. In addition the Scottish institute provided one member of staff for the survey.

The results and chart can be seen within the reports from Ireland and the Netherlands 2012.

Spawning/Pre spawning Herring acoustic survey; VIa, VIIa-g; July, Sept, Nov, March,

Jan (Scottish Spawning/pre-spawning Herring Acoustic Survey)

PLEASE NOTE: The survey design of this Marine Scotland herring acoustic survey and the corresponding survey in area IV were changed during 2011

[Please see explanations and acceptances for the changes under the North Sea component North Sea Herring Acoustic Survey NHAS; Areas IIIa, IV; June, July (Scottish NS Herring Acoustic Survey)]

Aims: to conduct an acoustic survey to estimate the abundance and distribution of herring in the north western North Sea and west of Scotland (ICES area VIa(N)) as part of the ICES International North Sea Herring Acoustic Survey. The results are combined with those of Germany, Netherlands, Norway & Denmark to produce an age disaggregated abundance index. This is the only fishery independent data for herring in VIa(N) and is used as a tuning factor in the assessment by HAWG.

Note – this survey was conducted from a commercial pelagic trawler provided at national expense by the Scottish pelagic fishing industry.

Data Collection: Proposed changes to the structure of this survey and the equivalent North Sea survey (which historically ran concurrently) were presented to the Commission and STECF and were accepted.

See information under ***North Sea Herring Acoustic Survey NHAS; Areas IIIa, IV; June, July (Scottish NS Herring Acoustic Survey)***

Therefore the proposals in the 2011-13 UK National Proposal submitted in 2010 were superceded.

In 2012 the survey took place over 22 days on board m/v Krossfjord, a pelagic commercial vessel provided (at national expense) by the Scottish pelagic industry. 2054 nautical miles were surveyed at different frequencies. The charter costs were negotiated and paid for with scientific quota saving approximately €200,000. 2 fishing hauls were very successful and herring were sampled for all biological parameters. All other species caught were identified and measured. MRV Scotia, which was surveying at the same time, increased the number of fishing hauls to compensate for a drop in fishing on the commercial vessel.

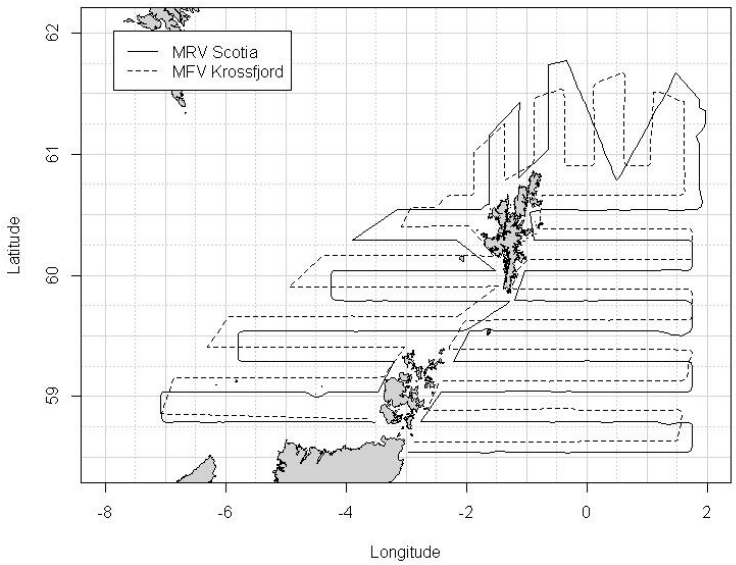
Agreement was reached with Northern Ireland and the Republic of Ireland to increase their survey areas to cover the acoustic track in ICES VIa(S)

Data Storage: all acoustic data are stored in data banks at MSS. Subsequent post survey analysis was provided to the relevant ICES working groups.

Suitability of the survey for the calculation of the ecosystem indicators 1 to 4 listed in DCF appendix XIII: Yes for indicators 1 - 3 (mostly only target species are caught but all species caught are sampled).

Map showing track of MRV Scotia and m/v Krossfjord.

North Sea and west of Scotland herring acoustic surveys 2012



Broken line = Krossfjord cruise track. (Solid line = MRV Scotia cruise track).

Spawning/Pre spawning Herring acoustic survey; VIa, VIIa-g; July, Sept, Nov, March, Jan (Northern Irish Spawning/pre-spawning Herring Acoustic Survey)

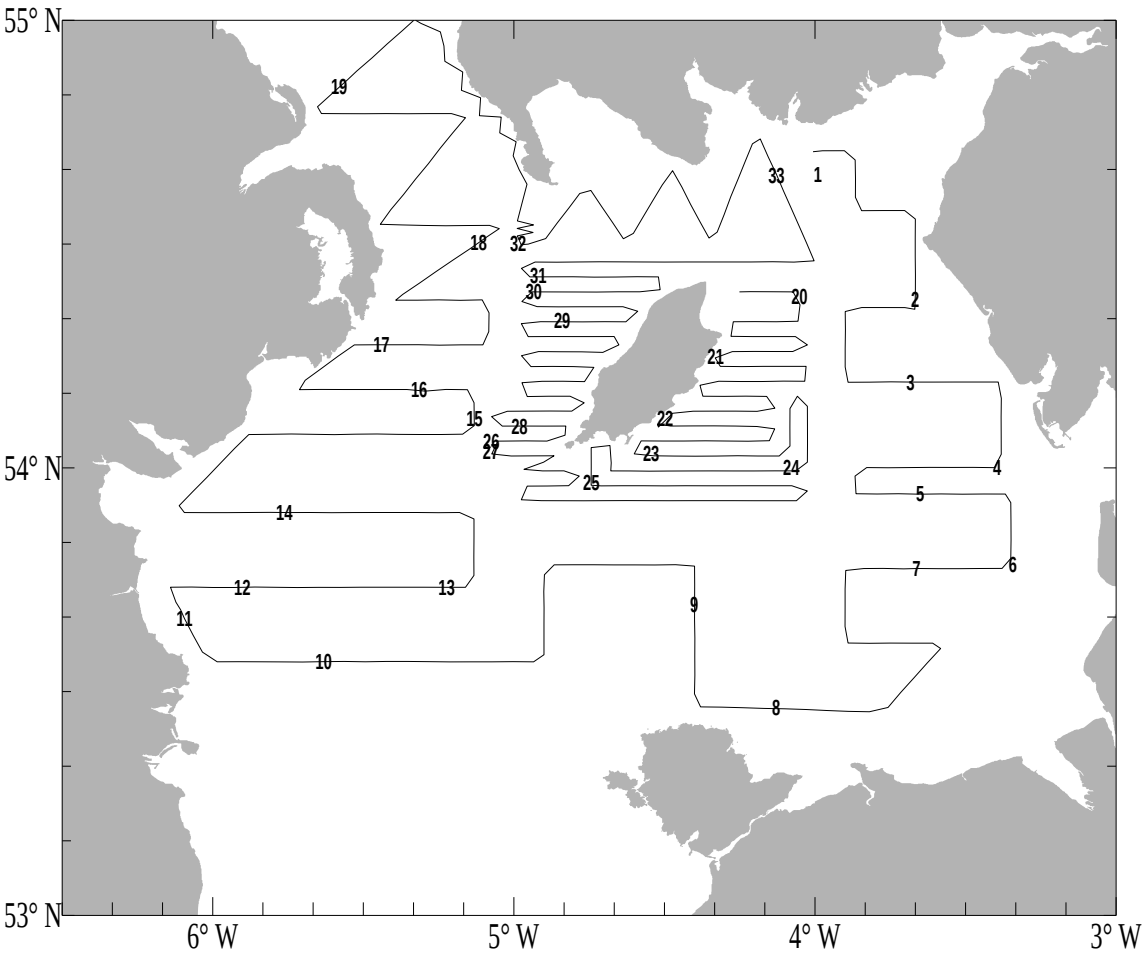
Aim: To carry out an acoustic survey for herring in the Irish Sea and west of Scotland.

Data Collection: During the 2012 survey 1249 nautical miles were surveyed and 32 pelagic trawl stations were fished to ground truth acoustic data. Indices of herring abundance were obtained by age class and used for tuning an Integrated Catch at age Analysis (ICA). The abundance estimate was used by HAWG along with two larval abundance indices to tune the assessment of Irish Sea herring. Adverse weather conditions prevented the survey to run up to the planned completion date (reduced number of days).

Data Storage: All acoustic data were stored in data banks at AFBI. Subsequent post survey analysis was provided to the relevant ICES working groups

Suitability of the survey for the calculation of the ecosystem indicators 1 to 4 listed in DCF appendix XIII: Yes for indicators 1 - 3 (mostly only target species are caught but all species caught are sampled).

Herring acoustic survey VIIa map



Nephrops UWTV survey (offshore); UWTV (FU 11-13) VIa , 2nd quarter (Scottish Underwater Television Surveys, ICES area VIa)

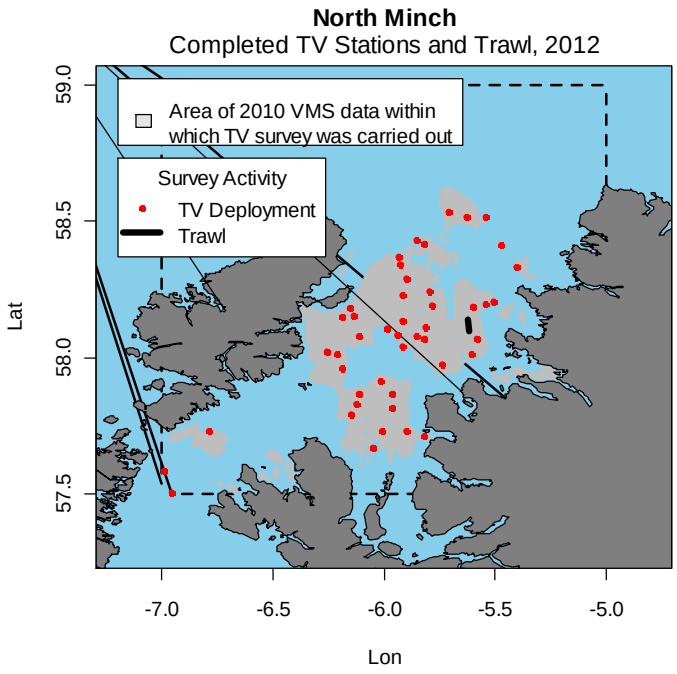
Aims: to obtain estimates of distribution and abundance of *Nephrops* in the Firth of Clyde, North Minch, South Minch and Stanton Banks using underwater television. (This is the western component of the previous offshore survey in ICES area IVa – FU7).

Data Collection: As previously mentioned, the west of Scotland is surveyed during an integrated North Sea/west of Scotland survey. 11 of the 12 days planned for the western area were completed. A day short was mostly due to the loss of the underwater sledge. 120 TV tracks were planned and 138 achieved – therefore the survey was mostly complete. Of the possible 10 fishing hauls planned only 5 were required to provide sufficient samples from all sediment types. More tows were attempted but the net was very badly damaged on a few occasions. All information was captured on video tape. Additionally, information on size at maturity was obtained as per Appendix VII of the Data Collection Framework. Morphometric measurements were collected from 292 animals and 136 sediment samples were collected from the survey area.

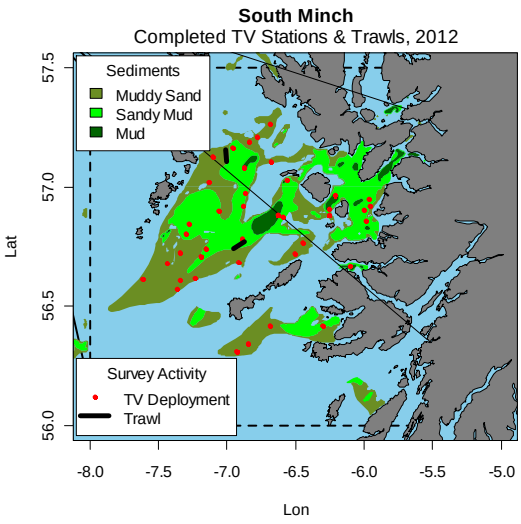
Data Storage: the video recordings have been analysed and the results conveyed to the relevant ICES expert groups Celtic Seas Demersal WG (WGCSE) and WGNEPS where they provide the major input to the *Nephrops* stock assessment.

Suitability of the survey for the calculation of the ecosystem indicators 1 to 4 listed in DCF appendix XIII: Not suitable

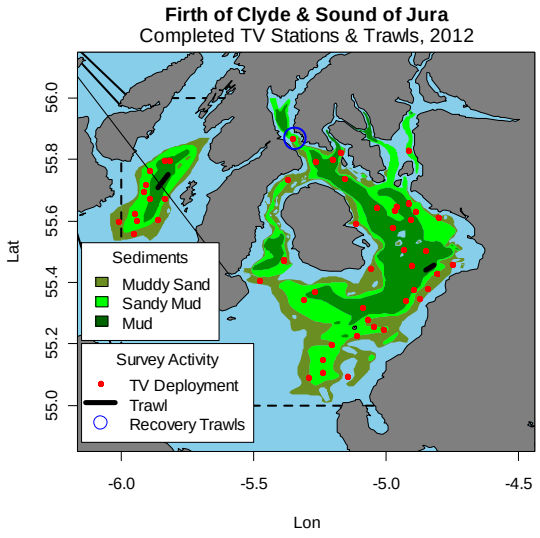
Scottish 2012 Nephrops TV surveys FU11, FU12, FU13 (ICES VIa) maps



Map of *Nephrops* tv stations in FU11



Map of *Nephrops* tv stations in FU12



Map of *Nephrops* tv stations in FU13

***Nephrops* UWTV Irish Sea UWTV (FU 14-15); VIIa; August : (AFBI *Nephrops* camera survey)**

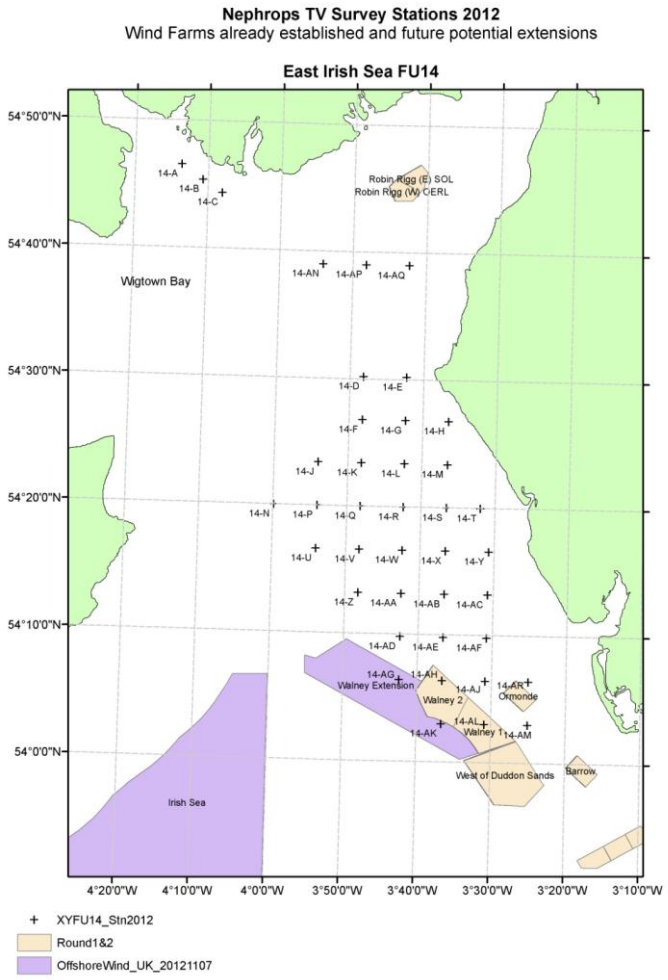
Aims: To investigate the distribution, biology and population structure of *Nephrops* in the western Irish Sea, using underwater television.

Data Collection: The 2012 survey took place over 11 days in total. This comprised of 4 days UWTV and 5 days trawling in FU15 and 2 days UWTV in FU14 within Area VIIa. A total of 104 camera tracks and 23 ground truth trawl stations were completed in FU15 and 40 camera tracks in FU14. The FU14 survey was an extension of the FU15 survey and is therefore considered as a single 11 day VIIa survey.

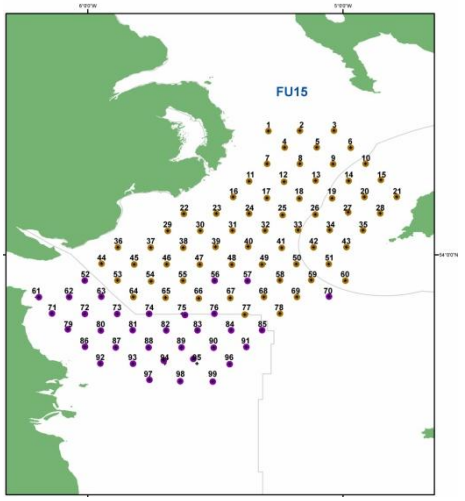
Data Storage: Catch data and video recordings were analysed and presented at WGCSE to perform the *Nephrops* stock assessment.

Suitability of the survey for the calculation of the ecosystem indicators 1 to 4 listed in DCF appendix XIII: Not suitable

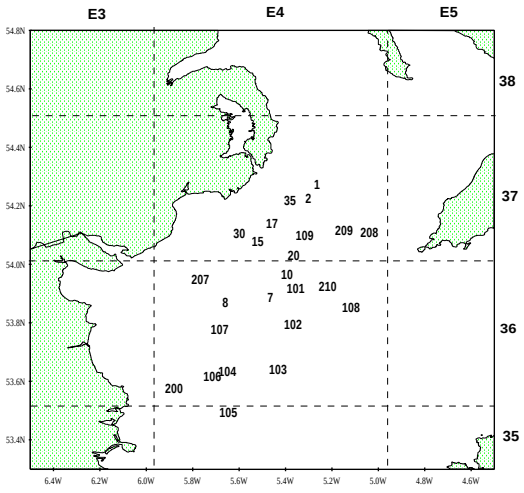
Nephrops TV survey FU14 Map



Nephrops TV survey FU15 Map



Nephrops **Trawl stations FU15 Map**



III.G.2 Data quality: Results and deviation from NP proposal

All proposals were met unless hampered by bad weather or gear/equipment damage.

III.G.3 Follow-up of Regional and international recommendations

None

III.G.4 Actions to avoid shortfalls

None.

IV. Module of the evaluation of the economic situation of the aquaculture and processing industry

IV.A Collection of data concerning the aquaculture industry

Collection of data on the aquaculture industry in the UK is undertaken by Cefas in England and Wales, by Marine Research Scotland (MRS) in Scotland, and by the Department of Agriculture and Rural Development (DARDNI) in Northern Ireland. The regional returns are collated by Cefas. 100 per cent of authorised producers were contacted during the year, either by visits in England and Wales or by postal questionnaires in Scotland and Northern Ireland. Use was also made of data collected by the UK Office for National Statistics Annual Business Inquiry (ONS ABI).

The data collected is relevant to EU regulations 762/2008 (production and structure) and EU regulation 199/2008 (economic statistics) but the primary reasons for site visits are regulation and disease control. All aquatic production businesses (APBs) must be licensed. Hence the coverage is very thorough and almost every site is visited. Those where the visit fails are followed up by telephone. Hence the data collection is effectively an annual census.

IV.A.1 Achievements: Results and Deviation from NP proposal

As Table IV.A.2 shows, the UK aquaculture industry comprises a number of land-based farms and other segments covering mussels, oysters, clams and other shellfish. The Census approach to data collection resulted in 100 per cent coverage of producers.

Well over 95% of production and value is covered by production of salmon, rainbow and brown trout, and mussels.

IV.A.2 Data quality: Results and deviation from NP proposal

The type of data collection for variables collected on the farms was exhaustive and there was no shortfall compared with what was planned; the variability and bias indicators columns in Table IV.A3. are effectively redundant as there is no sampling variation. The accuracy of information provided by the farmers cannot, however, be verified by triangulation. It is a reasonable assumption that the accuracy will be higher for the largest enterprises that are corporately owned.

Variables derived solely from the ONS ABI do incur sampling variability because this survey takes a proportion of businesses from all sectors or the economy. The ONS notes, "in addition to sampling errors there is the potential for non-statistical errors which cannot be easily quantified. Examples where these errors may occur are deficiencies in the survey register and errors made by respondents in completing the survey forms." In the case of a small sector like aquaculture, this is an important caveat. Due to the small size of the industry, separate estimates of error are not produced by the ONS as part of the ABS results. The overall CVs for turnover in the ABS vary from 0.05 to 0.11 for "agricultural and animal husbandry services, excluding vets", a comparable area of activity. Overall response rates for the same sector varied from 75% to 85%.

As with most surveys, the larger companies will provide more complete responses than smaller companies, so an average 80% response rate by company does not reflect a 20% under-estimate in population-total estimates derived from the sample results. The degree to which this bias exceeds the sampling error is not known, but the ONS defines low response as below 70%. Hence we are confident that the responses for Table IV.A.3 justify an estimate of 0.2 for the accuracy indicator of data derived solely from the ABS.

In relation to the economic data of aquaculture, it should be noted that aquaculture may be a subsidiary activity of a diverse enterprise (e.g., multi-national animal food producers) or may be deliberately diversified as a rural activity as in this example describing an investment, "Within a 40 acre site, only a total of four acres is taken up by the hatchery. The remaining land is made up of agricultural grazing utilised by local farmers and attractive woodland areas."

IV.A.3 Follow-up of Regional and international recommendations

There are no relevant regional or international recommendations.

IV.A.4 Actions to avoid shortfalls

A pilot study has been commissioned in 2013 to improve the quality of economic data by direct enquiries to the industry. The key aims of the pilot are to examine problems associated with collection of economic data on the UK marine aquaculture industry and advise the most appropriate methods for future data collection including:

- Problems associated with negative reactions and possible low response rates.
- The feasibility/desirability of linking data collection to collection of production data through fish health inspectorates.

The study should will look at the existing definitions for DCF economic variables and utilise the wide experience gained from the UK Farm Business Survey and from other MSs in collecting Aquaculture and Farm Accountancy Data Network (FADN) data. The pilot will also trial data collection to meet the UK's DCF requirements in 2013 and future years.

IV.B Collection of data concerning the processing industry

The work of collecting the data on the fish processing industry continues to be sub-contracted by UK fisheries administrations to the Sea Fish Industry Authority. The most recent data collection exercise collected data for reference year 2010.

Data were collected using two methods:

a) **Telephone census** of the entire UK seafood processing industry asking basic questions, including employment but not financial information. This was based on the dedicated business register SEAFISH maintain being kept up to date through industry contacts, information in the industry press, EU approved processors database (via Food Standards Agency) and other information sources.

b) **A full non-probability sample survey**, including telephone interviews, to capture detailed information. In addition, published accounts were collected for companies who declined to take part in the survey.

IV.B.1 Achievements: Results and Deviation from NP proposal

As Table IV.B.1 shows, Seafish allocate fish processing firms into one of four segments, classified according to the number of Full Time Equivalent employees. For each segment, data were collected using a combination of a Census and non-probability sample survey. The overall achieved sample, for variables collected through the survey was 141 out of a population of 403, i.e. 34 per cent. The planned sample rate was higher for the larger firms: 58 per cent of firms in the bracket 50-249 FTE and 46% of 250+ were sampled, compared with 21 per cent of firms with less than 11 FTE and 44% in the 11-49 bracket. All four segments achieved the planned sample rate, the highest of which was the 11-49 FTE bracket where the achieved sample rate (vs planned sample rate) was 147% and the lowest the 1-10 FTE bracket with 105%.

IV.B.2 Data quality: Results and deviation from NP proposal

The Coefficient of Variation (the ratio of the standard deviation to the mean - CV) for each estimate are provided in Table IV.B.2. The CV was calculated for all 2011 parameters and also for 2008 and 2009 and 2010 data where possible. Response and coverage rates are also provided.

The Coverage Rate was 100 per cent in all segments for ***Number of Persons Employed*** and ***FTE National.*** For the other variables, coverage ranged between 0 and 56 per cent. Coverage was particularly high for the largest firms (50-249 & 250+ FTE's) with rates in excess of 45 per cent in respect of ***Turnover, Wages and Salaries of Staff, Depreciation of Capital and Total Value of Assets.*** However, ***Energy Costs, Purchase of Fish & Other Raw Materials*** and ***Other Operational Costs*** yielded no returns in the 250+ bracket.

It is mandatory for companies to submit data to Companies House in the UK. Depending on the size of the business they must adhere to different levels of disclosure. Smaller companies will only submit balance sheet data whilst larger companies will submit more data including turnover for the largest firms. Unfortunately, variable costs such as energy or raw materials are never submitted as a matter of course so these must always be collected by primary research methods which limits sample sizes and restricts the quality of analysis.

IV.B.3 Follow-up of Regional and international recommendations

There are no relevant regional or international recommendations.

IV.B.4 Actions to avoid shortfalls

Work has previously been carried out by SEAFISH and the MMO to analyse the official statistics produced for the activity within this area from collection exercises operated by the Office for National Statistics (ONS) in the UK through its Interdepartmental Business Register (IDBR) and Annual Business Inquiry (ABI). Comparisons were made between the business register and Seafish's own list of companies. The analysis indicated the high quality of the Seafish list with no omission of any significant companies. The Seafish list was reassessed for the 2012 census.

V. Module of evaluation of the effects of the fishing sector on the marine ecosystem

V.1 Achievements: Results and deviation from NP proposal

Ecosystem Indicators 1 - 4

The UK used IBTS coordinated trawl surveys in the North Sea and North Atlantic to collect the required data to support development of these indicators. Additional data were collected on coordinated beam trawl surveys. The indicators provided by each survey are listed in Table III.G.1.

Ecosystem Indicators 5 - 7

VMS speed and position data for fishing vessels with LOA in excess of the 15m statutory minimum are currently logged by the UK authorities using a 2-h transmission interval. Spatial resolution is better than the 2n.mile grid cell specified by the DCF. Algorithms for filtering data to include only positions during fishing, and to link individual records to the UK Fleet Activity Database to identify fishing gear and other métier-related variables are currently under continuous development within the UK. CEFAS and MSS have completed their separate development of algorithms linking VMS data to log-book records for all vessels > 15m, and have moved towards implementation. Data collected are given in Table V.1.

Ecosystem Indicator 8

The UK at-sea observer programmes carried out by AFBI, Marine Scotland and Cefas in 2012 provide estimates of discarding rates of commercially exploited species by fleet métier, as identified in Table III.C.3. By-catches of seabirds, reptiles and marine mammals were recorded during these trips.

Ecosystem Indicator 9

Fuel costs were collected from the economic survey and can be related to the information on fishing activity of the vessel during the corresponding period of economic activity, taking into account period of non-fishing related time at sea (e.g. time spent on pipeline guard duty, support for oil and gas rig operations, etc.) to allow fuel consumption and fishing activity to be directly compared. Account can be taken of the differing levels of fuel intensity in cases where vessels report using more than one type of fishing gear to ensure adequate accuracy in the estimation of this indicator at the métier level

V.2 Actions to avoid shortfalls

No actions needed.

VI. Module for management and use of the data

VI.1 Achievements: Results and deviation from NP proposal

The UK has an established national DCF website at :

(http://www.marinemanagement.org.uk/fisheries/statistics/dcf.htm).

In addition it maintains all materials related to the National Programme, Annual reports, financial reports, DCF meetings and other information on a Sharepoint site.

Transversal data

The existing UK-wide administrative data sources for primary data related to fishing capacity, effort and landings, continued to be available in 2010.

Economic data

Primary data on the economic activity of the fleet and the fish processing industry were collected by SEAFISH, and captured in SPSS for the fleet data and in Microsoft Access for the fish processing data, with analysis carried out in SPSS for both areas to produce data reports for submission as required to the various Commission groups (e.g. SGECA etc.).

Aquaculture data were processed by Cefas and stored in a SQL database; for Scotland processed by Marine Scotland Science; for Northern Ireland by DARD NI. Tabular summaries for Scotland and Northern Ireland were forwarded to Cefas and collated for returns to Eurostat, OIE and FAO. Data were also summarized for internal reports for the Defra and used to reply to queries from the general public. Summary tables for UK 2010 production within regional breakdowns were prepared for publication in Finfish News.

Biological sampling and survey data bases

England

Commercial fishery sampling data bases

During 2012 a programme of improvement to the Observer database was carried out to enhance data capture efficiency, quality assurance and reporting. This was based on our ongoing maintenance and monitoring and experiences gained meeting the RCM RDB data calls in 2012.

All market sampling data collected since January 2012, including observational data, has been entered onto the new ‘Gathering and Reporting Information’ (GARi) database, this system has been in development at Lowestoft since 2010. Further development work to provide editorial functionality and standard reports are planned for 2013. However, with the replacement processing software still under development, the processing of market collected data remains

within the existing Biological Sampling System (BSS). To accommodate this, data entered onto GARi is being automatically shadowed over onto BSS on a daily basis.

The development project to create a new sample processing system is well under way. This new system, 'Integrated Biological Information System (iBIS), is currently at the design stage and will utilise data collected and held within the GARi database, Observer database, Fishing Survey System (FSS) and landings and effort data stored within the CEDER database. The system will use data warehouse technology and OLAP cubes to carry out much of the pre-determined data raising and integration prior to outputting the raised datasets.

The Market Electronic Data Capture (MEDC) project is tasked with providing efficient, timely delivery of quality assured port sampling data from the English port sampling program. It is a hardware and software project that captures fish and shellfish measurements directly at the point of sampling and subsequently uploads the data to the central database system. By capturing the data directly we can increase the sampling efficiency during market visits by effectively doubling the sampling effort, each team member can measure individuals rather than working as a team of 1 measurer and 1 recorder. As the data undergoes no transcription or keying-in process we have eliminated two of the major sources of error associated with market sampling data.

Activity during 2012: Software and hardware construction was completed and the final versions were successfully trialled in the field during Quarter 3 and Quarter 4. A full training programme and system roll-out began towards the end of Quarter 4 in the major sampling ports.

Planned work 2013*:* Continue training programme and roll-out of system to the minor ports (Quarters 1 and 2). An ongoing programme of evaluation has been implemented to identify improvements and enhancements that could be incorporated into the system in the future.

Recreational fishery data base

During 2012 an Access data base was developed by Cefas to capture on-site sampling data from interviews of shore and private boat anglers carried out by Inshore Fisheries and Conservation Authorities, and an editing module was incorporated. Each IFCA used a stand-alone version of the data base.

Scotland

No developmental changes were made to the Marine Scotland Science Fisheries Management Database (FMD) in 2012

Use of the data

All fishery and survey data collected and archived under the DCF in 2011/2012 were maintained in a form to allow assessment of exploited stocks and the estimation of the total volume of catches (defined by regional metiers and time period) including discards. The UK National Programme for 2012 includes staff time for data entry, quality assurance, data processing, data retrieval, and production of aggregated, processed data in a suitable form for

ICES Working Groups and other forums for scientific assessment of the stocks covered by the DCF. An element of time is also included for scientific analysis of these data sets during the period immediately prior to ICES stock assessment Working Groups. All such work in 2012 was completed as expected and the relevant costs included in the Financial Report.

The list of meetings attended by national UK experts for supporting the scientific advice is given in Table II.B.1. It includes information on participation and provision of stock co-ordinators and chairs for particular stocks.

VI.2 Actions to avoid shortfalls

There were no shortfalls with regards to provision of data for fishing capacity, effort and landings and for economic data for the fishing fleet and fish processing industry, or for the data from biological sampling and surveys.

VII. Follow-up of STECF recommendations

The recommendations below also appear in tabular form (as requested). The table is in Annex 3 so as to preserve page number referencing

> ***"The CR includes commitments for Member States to develop and implement sampling plans for vessels not subject to logbook requirements and landing declarations. STECF recommends that when Member States develop the sampling plans, due notice is taken to the data requirements under the DCF. This could be done by actively involving at national level, the DCF experts in the development of the sampling plans."***

UK comment: All registered commercial fishing vessels of 10m LOA and over in the UK are required to submit EU logbooks. The catches of smaller vessels which do not submit EU logbooks are recorded exhaustively from sales notes, as required by the Registration of Buyers and Sellers legislation. Such data are supplemented by estimates of fishing effort based on knowledge local staff have of the activities carried out by each local vessel (e.g. gears used, patterns of fishing activity etc.)

> ***"STECF recommends that the roles of the institutions involved in the collection and analysis of transversal data should be discussed and clearly defined in a dialogue between all relevant parties, i.e. research institutes, control & enforcement agencies and fishing industry representatives. Furthermore, efforts should be made to ensure that the data needs of end-users are being considered in the new DCF."***

For the former the work under the DCF in the UK is coordinated by the MO, the control and enforcement agency for activity within EU waters. The MMO is also the UK competent authority as required under Article 5, para 5 of th Control Regulation (Council Regulation (EU) No. 1224/2009:

> *5. in each Member State, a single authority shall coordinate the control activities of all national control authorities. It shall also be responsible for coordinating the collection, treatment and certification of information on fishing activities and for reporting to, cooperating with and ensuring the transmission of information to the Commission, the Community Fisheries Control Agency established in accordance with Regulation (EC) No 768/2005, other Member States and, where appropriate, third countries.*

As such the MMO is able to coordinate and facilitate with counterparts in other fisheries administrations in the UK to ensure the availability of data as required.

> ***In response to the request for guidance from the EWG 12-03, STECF recommends that the economic performance indicators are based on the macroeconomic approach at the society level, instead of having the current mixture of macro- and microeconomic indicators, which could potentially lead to confusion.***
>
> ***Following this, STECF thus recommends that the indicators of Gross Value Added and economic profit are calculated without including the cost/income from TCF transfers, and that instead of including the Operating Cash Flow calculations, these should be substituted with an indicator for Gross Profit being calculated as:***
> ***Income from landings + other income – [crew costs + opportunity cost of unpaid labour + energy costs + repair costs + other variable costs + non variable costs]***
> ***STECF recommends that two cases are analysed based on different levels of the theoretical maximum number of days at sea in order to illustrate how this influence the results.***
>
> ***STECF recommends that the maximum number of days at sea is set as:***
> ***1) the vessel using most days***

2) the average of the top 10% most active vessels

For the selected fleets, STECF recommends that an explanation is given on whether any management limitations could potentially influence the maximum level. STECF recommends that any analysis of overcapacity includes a clear description of how the results should and should not be interpreted, also clearly stating the methodology with all the various caveats and limitations.

STECF recommends that the number of chapters of special interest this year is considered once more by the chair and the Commission in light of the STECF observations and conclusions above. Having three chapters instead of normally only one implies increased work for the EWG, and this could potentially threaten finalisation of the report before the STECF summer plenary.

STECF recommends that priority is given to completing the standard chapters. MATT/KEVIN

UK Comment: See comments in section III.B.3. Several of these recommendations are applicable to the guidelines planned for Member States to follow in the production of the annual reports on the balance between fleet capacity and fishing opportunities. It is assumed that these recommendations will be incorporated into the revised guidelines for Member States that are to be issues by the Commission. (Note – these guidelines were expected earlier this year (2013) but their release has been postponed – latest communication received on 31st May 2013.)

Overview of selectivity of gears used in EU fisheries

STECF recommends that a more detailed analysis of discard data gathered under the Data ***Collection*** Framework should be undertaken to provide a quantitative rather than a qualitative assessment and this analysis be used to identify the level of discards for the aggregated fleets.

UK comment: All discards data requested by end users including STECF and ICES are provided by the UK in a form that allows a quantitative evaluation of discard rates.

STECF reiterates its previous recommendation from PLEN 11-03, that a study be undertaken to focus on the disaggregation of economic data below the fleet level to subareas and/or métiers, which, for instance, is relevant in relation to future needs for impact assessments and evaluation of management plans, and also when addressing ecosystem based management. MATT/KEVIN

UK Comment – the UK would support such a study. A disaggregation of economic data below the level of DCF segmentations is carried out as part of assessing the impact of various management plans – e.g. The cod and sole recovery regimes.

STECF recommends that FPAs be based on management plans, which should include management objectives, harvest control rules, TAC or effort allocation keys and should be supported by data collection programs, scientific advice and monitoring.
For practical purposes STECF recommends that in the context of FPAs, the estimated surplus should be used to allocate the EU fleet's share of a TAC or effort arising from a management plan.

UK Comment: It is assumed that this recommendation is addressed to the Commission in light of their central role in the negotiation of such agreements.

VIII. List of acronyms and abbreviations

ABI	Annual Business Inquiry
AFBI	Agri-Food and Biosciences Institute
BEWG	Benthos Ecology Working Group
CEFAS	Centre for Environment, Fisheries and Aquaculture Science
CPUE	Catch per Unit Effort
DARDNI	Department of Agriculture and Rural Development, Northern Ireland
DATRAS	Database Trawl Survey
DCF	Data Collection Framework
DEFRA	Department of Environment Food and Rural Affairs
EC	European Commission
EMP	Eel Management Plan
FRS	Fishery Research Services
GOV trawl	Grand Overture Verticale trawl
HAWG	Herring Assessment Working Group for the area south of 62˚ N
IBTS	International Bottom Trawl Survey
ICA	Integrated catch at age analysis
ICES	International Council for the Exploration of the Seas
MIK	Methot-Isaacs Kidd frame trawl
MCGA	Marine and Coastguard Agency
MFA	Marine and Fisheries Agency
MMO	Marine Management Organisation
NEA	North East Atlantic
NI	Northern Ireland
ONS	Office for National Statistics
PGAAM	Planning Group on aerial and acoustic surveys for mackerel
PGCCDBS	Planning Group on commercial catch, discards and biological sampling
PGHERS	Planning Group for Herring survey
RCM	Regional Co-ordination Meeting
RSS	Registry of Shipping and Seamen
SE	Scottish Executive
SEERAD	Scottish Executive Environment and Rural Affairs Department
SEAFISH	Sea Fish Industry Authority
SG	Scottish Government
SGRN	Study Group on Research Needs

SMP	Salmon Management Plan
SSB	Spawning stock biomass
STECF	Scientific, Technical and Economic Committee, Fisheries
SQL	Standard query language
WECA	Weight-at-age in the catch
WGBEAM	Working Group on Beam trawl surveys
WGEEL	Working Group on Eels
WGMEGS	Working Group on Mackerel and Horse Mackerel Egg Surveys
WGMHSA	Working Group on the Assessment of Mackerel, Horse Mackerel, Sardine and Anchovy
WGNAS	Working Group on the Assessment of North Atlantic Salmon
WGNEPH	Working Group on Nephrops stocks
WGCSE	Working Group on the Celtic Seas Ecoregion
WGNSSK	Working Group on the Assessment of Demersal Stocks in the North Sea and Skagerrak
WKSCMFD	Workshop on Sampling and Calculation Methodology for Fisheries Data
WKSDFD	Workshop on Sampling Design for Fisheries Data
XSA	Extended survivor analysis

IX. Comments, suggestions and reflections

In view of the substantial amount of expenditure spent on eels and salmon monitoring, under the DCF and the Eels Action Plan, Annex 2 to this report provides details about these activities in the UK.

X. References

XI. Annexes

Annex 1 – Minutes of 2012 National Coordination meeting, 9-10 February 2012.

Annex 2 – Details of work in the UK under the DCF related to Eels and Salmon

Annex 3 – Current bilateral agreements and derogations

ANNEX 1

DATA COLLECTION FRAMEWORK:

UK 2012 NATIONAL CO-ORDINATION MEETING

MARINE SCOTLAND SCIENCE, MARINE LABORATORY, ABERDEEN

12.30 PM THURSDAY 9TH FEBRUARY TO 2.00 PM FRIDAY 10TH FEBRUARY 2012

Attendees:
MARINE SCOTLAND SCIENCE: Phil Kunzlik (PK), Margaret Bell (MB), Alistair Pout (AP)
CEFAS: Mike Armstrong (MA), Steve Warnes (SW), David Pettengell (DP), Jon Elson (JE)
AFBI-NI – Pieter-Jan Schon (PJS)
MMO – Kevin Williamson (KW 10th February only)

1. Introductions

KW apologised for absence from day 1 due to other work commitments.

2. 2009 and 2010 Technical Report and Financial Statements: current status

KW gave an update on the situation with regards to the final reports submitted for 2009 and 2010 and associated financial position – queries from the commission were still being received and responded to as required.

3. 2011/13 National Programme: current status

There was an EU Review meeting on National Programmes for 2012 carried out in December 2012. No formal report is from that group is available as yet – there were comments made in the meeting about the planned reduction of involvement in certain surveys and the planned reduction in port sampling was acknowledged. Formal reaction from the Commission will be circulated when available. Until then the plan was to proceed with the work planned as per the National Programme submitted.

4. Recreational fisheries

More information on the joint Defra/MMO/CEFAS project is available at www.seaangling2012.org.uk. With regards to the household survey element, a copy of the questionnaire will be sent to Marine Scotland and other DA's along with an example summary report from the pilot month. The household survey will run all through 2012. There will be an on-line voluntary survey that corresponds to this (see web-site).

PK – Hopefully there may be something available on work carried out by others in Marine Scotland in 2011 related to recreational fishing.

PJS – no AFBI involvement as yet in this.

Two issues were identified:

- Angling for eels can cover marine and fresh water (Note- in Scotland no fishing for eels is allowed)
- Salmon requirements – info is collected around the UK covers activity beyond the scope of the DCF – e.g. the Commission has stated that data should relate to marine activity only. While recreational salmon fishing is economically significant in Scotland, it is primarily river based with no recreational sea fishing for salmon around the coast of Scotland.

5. Overview of DCF 2012 requirements – Progress and issues

As mentioned above there is as yet no formal response from the Commission as a result of the review of NP's in December 2012. As such work was proceeding as per the NP. Representation at DCF meetings in 2012 was tentatively agreed as follows:

- 13-16 March (Barza/Ispra). Meeting on revision of DCF: KW and PK.
- 19 March (Brussels) Nat. Correspondent meeting: KW to attend. Other attendees to be decided.
- 25-29 June (Germany): Evaluation of Annual reports: MB and PJS to attend
- 1-5 October (t.b.a.): Meeting on revision of DCF: KW and MA
- 3-7 Sept (Ostend). RCM North Sea: SW, MA, AP, PK
- 10-14 Sept (Galway), RCM North Atlantic: SW, JE, MB, AP; PJS or other from AFBI)
- 10-14 December (Brussels): Review of NPs. SW.

6. 2011 National Programme – deadline end of May for combined report

The revised EU guidelines for annual reports are on the UK-DCF SharePoint site under "shared documents\technical reports\revised EU guidelines – Jan 2012"

i. Preparation of 2011 financial statements

Invoices – a £2,000 cut off point for these would be used initially – if the Commission request more details than this provides KW to let other know. **All** sub-contracting costs should include an invoice and when total costs for a single project or element of a project are over £2000. All to note that screen shots of payment systems may be needed as well at a later stage to confirm that payments indicated as due by invoices were actually paid.

ii. Compilation of 2011 Technical Report

A work list was drawn up for completion of the standard tables that are needed before the text can be completed. These need to be done by early May to allow the text to be completed by 31st May. The ICES secretariat has produced a consolidated list of recommendations including DCF related recommendations which will be added to the RCM and SGRN lists.

Completion of Standard Tables

The standard tables for the 2011 Annual Report were reviewed and tasks, responsibilities and deadlines identified:

Table	Action	Responsible person	Internal deadline
IIB1	Compile attendance at DCF-approved meetings. Contact Henrik at ICES for attendee lists.	MB	End February
IIIC3	Complete column “total No, trips in sampling year” from Katy Barratt data extraction for 2011.	PK	Distribute week following NCM
	Compile nos. sampled trips by metier	Individual labs	End March
IIIC4	Compile total nos. trips sampled by sampling frame	Individual labs	Mid April
IIIC6	Compile Achieved Length sampling of catches, landings and discards by metier and species.	Individual labs	3rd week of March
IIIC5	Aggregate data from IIIC6 to give nos. fish measured for length compositions by stock (all metiers combined)	Individual labs	4th week March
	Estimate CVs of length compositions by stock (all metiers combined.	Individual labs to provide CVs then collaborate to combine over UK countries	2nd week of May
IIIE3	Compile nos. sampled per stock for stock related biological variables and compute CVs	Individual labs to provide data to Cefas.	1st week May
IIIG1	Compile details of surveys completed	Individual labs	End February
V1	Complete entries for time lag and time interval.	MMO	End February
VI1	Update data transmission table	Cefas/Mar Scotland	End February

		coordinate	

Calculation of CVs

The procedure for estimating the CVs for UK-wide estimates in IIIC5 was discussed. Cefas and AFBI to extract data in COST format, and Marine Scotland to provide the code developed for making bootstrap estimates of CV. The CVs for UK countries to then be obtained as in previous years by combining estimates of length composition and variance.

Completion of Annual Report text

The text is to be reviewed by all in the light of SGRN comments on the 2010 Annual report. The revised EU guidelines for Technical Reports were discussed – all were to review these and let KW know of any issues before 19th March so they could be raised if necessary at the national correspondents meeting in Brussels.

7. Preparation of revisions to 2011-13 National Programmes

It was agreed that we would wait for feedback on the 2012 programme amendments before anything to be discussed/decided on.

8. Discussions on DCF post 2013

It was noted that additional policy side contacts will need to be included given the link to EMFF - Dave Terry and Allan Gibb in MS / Ian Hume DARD / Mike Jones WG. All will be contacted to identify involvement in the March 2012 National Correspondents meeting in Brussels – KW to circulate details of terms of reference etc. as well as gather comments/issue for discussion (examples given were the need to simplify the system for costs to allow reporting across all areas rather than require separate estimation for each area).

PK and KW to go to 13-16 March meeting on revisions to the DCF for 2014-2020. One concern made was that the planning for previous changes to the DCF were over several years rather than the mere months available, so there were concerns over whether changes UK wishes to see included would be included. Key priorities for the UK will include:

- A top down approach from the regional level to national level requirements rather than build from national up to the regional level.
- Regional databases are an important element especially to ensure common standards.
- There is a need to clarify what the Commission see as role for regional groups within the DCF – e.g. funding or for provision of data on activity collected under the control side.

- There is no obligation for Member States to be part of the regional databases – will this come in with the revised DCF? (NOTE - 1st workshop for regional databases will be on 29/2-2/3/2012 as on the RCM listing)
- There are differences in sample design at the national level that cut across same metier present in different Member States.
- There needs to be an agreed definition of the level of detail that regional database need to cover.
- There are several issues related to sampling – e.g. the balance between the metier approach and concurrent sampling - with regards to any top down approach at the regional level, the latter will be important for the UK as the view from regional and other groups is against concurrent sampling.
- Coverage of the issue over the need to provide data at primary level to allow collation of regional information and the access to info for science
- Revision to a more regional basis will require flexibility in national programmes to meet changes in demands rather than rigid national structures.

9. Memorandum of Understanding

KW to circulate a draft MoU without involving WAG to be signed off. KW and MA to revive discussions with WAG with regards to sampling targets related to landings into Wales and specific sampling requirements they should contribute to.

10, Any other Business

The group discussed the note received on responses to data calls - KW to circulate a colour version that had been received to aid discussion of issues with responses. KW to ask commission if they can keep a register of the actual requests as they come in so that we can deal with any issues more easily when we look at compliance at the end of the year.

KW to circulate details of a request for data related to activity in ICES area VIA.

Reminder to all to revise SharePoint passwords regularly to avoid being locked out of the site and also to let MB know of new staff that need access to the site.

Kevin Williamson

Marine Management Organisation

February 2012

ANNEX 2 - EELS AND SALMON

SITUATION AND WORK CARRIED OUT IN 2012

SALMON

Scotland

MSS has completed the collection, collation and publication (see http://www.scotland.gov.uk/Topics/marine/science/Publications/stats/SalmonSeaTroutCatches/2012) of the annual salmon catch statistics. The interpretation of these statistics provides the SG with an overview of the national stock status of salmon. The sampling programme of commercially caught salmon was completed and provides basic biological information relating to the catches.

The data collection and analysis from the 3 monitored sites (river North Esk, Girnock and Baddoch Burns – both tributaries of the river Dee) was completed. This information allows an annual measure of marine mortality/survival which is a key parameter in both national and international assessments of the status of salmon stocks.

Two members of MSS participated in the ICES Working Group on North Atlantic Salmon in Copenhagen, Denmark, 03-12 April 2012.

England

Cefas contributes to the assessment of salmon stocks in England and Wales through our programme of salmon smolt collection and tagging. This data collection, in combination with monitoring of returning adults by the Environment Agency (EA), provides an estimate of wild salmon marine survival. An estimate of marine survival is applied in the stock assessment models used by ICES Working Group on North Atlantic Salmon (WGNAS) in its advice to ICES and hence NASCO, and by the EA in their assessment of local salmon stock status for individual ‘salmon’ rivers in England and Wales. We have submitted costs incurred by this programme for collections on the Rivers Tamar and Frome in the spring of 2012.

The sample collection programmes run continuously for several weeks, with exact start and end dates dependent on the period when the wild fish are migrating and therefore susceptible to capture. As a consequence, a number of staff contributed to this work and the numbers of days differ from the forecast because of the unpredictability of fish capture. These staff day costs are listed in the cost sheet under “At sea monitoring” although the work was conducted on rivers – the table headings have not been adjusted to reflect the recent inclusion of data collection for eels and salmon. In total, 4 Cefas staff worked on the sample collection programmes in 2012. We have also claimed for input and processing of the data arising from these programmes, and scientific analysis of these and other data which are conducted in the

preparation of the England and Wales assessment report for the WGNAS. The reference for the report is as follows:

Cefas/Environment Agency (2013). Annual Assessment of Salmon Stocks and Fisheries in England and Wales 2012 (138 pp.). This was included as a working paper to the 2013 meeting of the ICES Working Group on North Atlantic Salmon (WGNAS) – further details can be found in the Report of the Working Group on North Atlantic Salmon (WGNAS), 3 – 12 April 2013, Copenhagen, Denmark, ICES CM 2013/ACOM:09, 378 pp. The work conducted in 2012 was similar to 2011, and the on-line report for both can be downloaded from.

http://www.environment-agency.gov.uk/static/documents/Research/Annual_Assessment_of_EW_salmon_stocks_2011.pdf

http://www.cefas.defra.gov.uk/publications/salmon/salmonreport2012.pdf

A programme of juvenile salmonid monitoring is carried out to identify spatial variation in juvenile populations and temporal trends in their abundance. In 2012 sampling of juvenile salmon was undertaken at 590 sites on 65 rivers, estimates of the number of returning adults was measured on 11 rivers. Specific programmes to estimate marine mortality were conducted on two rivers (Tamar and Dee).

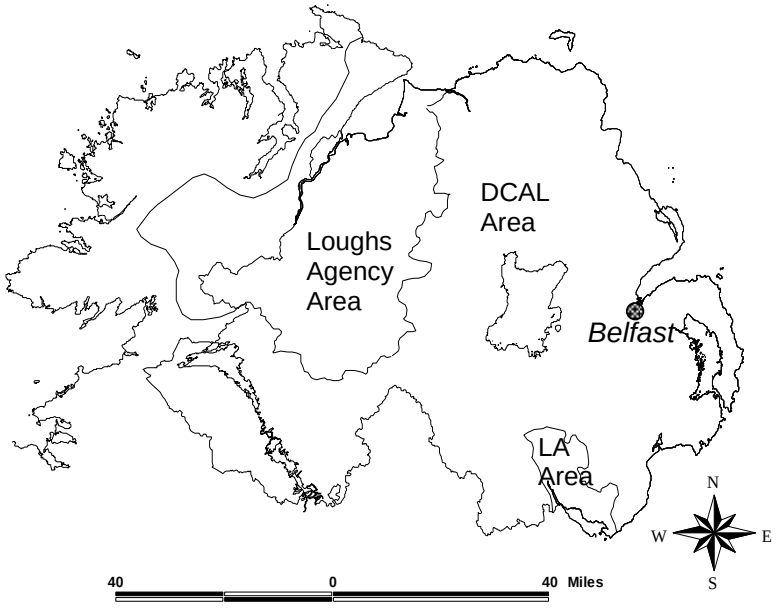
Recreational salmon fisheries in England

Recreational angling for salmon is conducted in freshwater and the catches and effort are monitored by the Environment Agency through catch returns linked to licences. Further details about the collection of angling data in 2012 are provided in the “Annual Assessment of Salmon Stocks and Fisheries in England and Wales in 2012” referred to above and equivalent data for 2011 from the same catch return programme can be found in the 2011 report at the web link given.

Northern Ireland

Northern Ireland comprises two fishery management areas with respect to Atlantic salmon (fig.1). The Loughs Agency is one of six cross-border implementation bodies set up under the British/Irish Agreement and is jointly sponsored by the Department of Communications, Marine and Natural Resources and Department of Agriculture and Rural Development, N. Ireland. Its area of jurisdiction covers the waters entering Loughs Foyle and Carlingford.

Fig. 1 Fishery Jurisdictions in UK (Northern Ireland)



The second fishery area is managed by the Department of Culture, Arts and Leisure (DCAL) which has responsibility for all other catchments and coastal salmon fisheries in N. Ireland, comprising the L. Neagh basin; The Erne basin; the Co. Antrim and Co. Down coastal rivers and coastal waters. Loughs Agency and DCAL are responsible for licensing, enforcement and salmon fishing regulations in their respective areas.

DCF relevant salmon management, fishery monitoring and sampling in Northern Ireland is carried out by the Agri-Food and Bio-sciences Institute on behalf of the Department of Culture Arts and Leisure (DCAL), the competent authority for inland fisheries management. Relevant work is contained in two projects, the first (Freshwater and Marine Survival,) determining cohort survival indices in line with UK strategy and reporting to ICES and NASCO, and the second (Salmon Management Strategy) assessing annual data points on adult return and juvenile production on each of 6 index catchments representing the range types of salmon river in NI

The assessment and maintenance of a long term data series of cohort survival indices is carried out at AFBI's River Bush Salmon research station. The station, jointly operated by AFBI and DCAL, has facilities to trap and count all upstream migrant adults and downstream migrant smolts at a point 3 Km from the sea.

Annual data on survival from smolt to 1SW and 2SW returnees is presented in Figure.2.

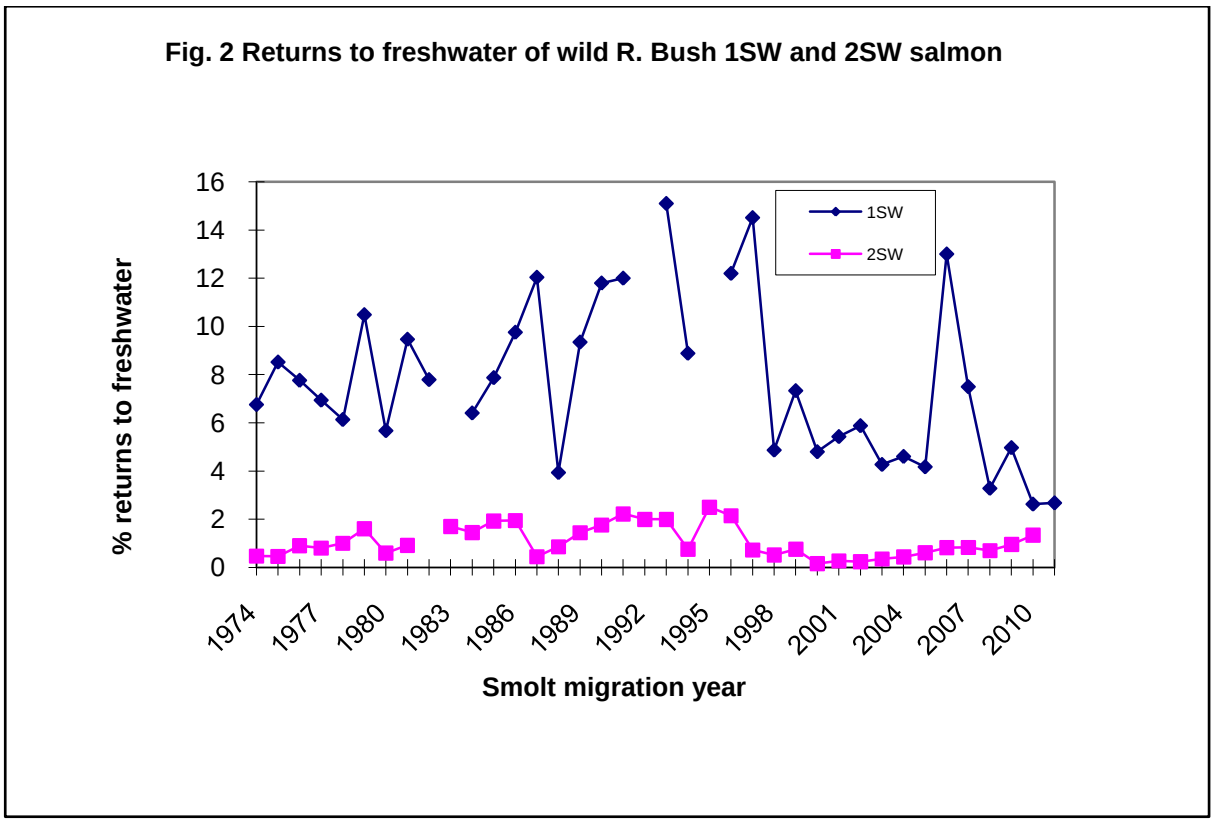


Figure 2 Returns of freshwater of wild R Bush 1SW and 2SW salmon .

The Northern Ireland Salmon Management Strategy, in line with the UK strategy, involves population level monitoring of 6 index rivers (Tables 1 & 2.) For each index site, the SMS aims to maintain:

- an assessment of adult escapement and compliance against Conservation Limit (CL),
- annual juvenile stock index from semi-quantitative electro-fishing,
- Exploitation data from recreational and commercial fisheries from carcass tagging schemes (Table 3).

Table 1. Percentage compliance 2007-2012 with conservation limits for monitored rivers in the DCAL area of UK (N. Ireland). * denotes minimum count.

River		Fishery Year				
	2007	2008	2009	2010	2011	2012
Blackwater	n/a	n/a	n/a	n/a	64	83*
Main	96*	170*	68*	61*	77	129*
Glendun	77	96	33	65	76	88

Clady	n/a	n/a	n/a	n/a	163	120*
Shimna	47	40	12	99	53	n/a
Bush	170	103	62	56	46	79

Table 2**.** Juvenile salmon (0+ summer) abundance indices (mean no. 5mins^{-1}) for monitored rivers in the DCAL area of UK (N. Ireland).

River		Survey Year				
	2007	2008	2009	2010	2011	2012
Blackwater	2.97	9.77	6.31	3.87	3.6	5.07
Main	3.59	5.65	4.68	3.41	2.25	4.49
Glendun	4.3	4.15	7.1	6.9	4.8	7.15
Shimna	10.64	0.79	1.67	1.59	5.6	1.33
Clady	n/a	n/a	n/a	n/a	n/a	7.27
Blackwater	2.97	9.77	6.31	3.87	3.6	5.07

Table 3. Salmon exploitation for UK (N. Ireland) for recent years.[1]Catches represent DCAL area catch, plus 50% of Foyle area catch.

Year	Total NI Net Catch		Total NI Rod Catch		Total NI Catch	
	Number	Weight (kg)	Number	Weight (kg)	Number	Weight (kg)
2007	5381	12314.9	7651	17428.9	13032	29743.8
2008	4023	8673.3	5129.5	12407.8	9152.5	21081.2
2009	2505.5	6308.5	3641.5	9913.1	6147	16221.6
2010	1914	4785	3291	7425.1	5243	12210.1
2011	1142	2512.4	3032.5	7895	4178.5	10416.4
2012	20	44	3470	8738.5	3490	8782.5

Measures of abundance for salmon stocks

The most complete long term measures of juvenile abundance are available for the R. Bush. These include an annual index of juvenile salmon (summer 0+) abundance determined from electric fishing surveys conducted at standard sites throughout the catchment. Smolt counts are available which are based on total trapping and release of emigrating wild smolts.

The 2012 wild smolt run was 12,832 fish which represented a decrease on the previous year (25,324 in 2011). The 2012 smolt run was predominantly composed of age 2+ smolts which accounted for around 62% of the run, similar to the previous year when 2+ fish composed around 64% of the total smolt emigration.

On the R. Bush, egg to smolt survival from the most recent fully-recruited ova deposition (2008) was 0.83% which was an increase relative to 2007 (0.42%), 2006 (0.65%) and a decrease on the previous 10 year average (1.03%).

In 2012 a total of 926 wild adult salmon returned to the R. Bush which represented an increase on the previous year 2011 (649), and a decrease on 2010 (1,045). It was also a decrease on both the previous 5 year (1,343) and 10 year (1,138) averages.

ICES and NASCO representation

The DCF related salmon work contributes to the UK National reports to ICES WGNAS and NASCO. Northern Ireland provides an attending representative to each of these International fora. Further detail on NI research and monitoring of salmon is available in ICES and NASCO reports

EELS

Scotland

Neither the Scottish Government (SG) nor Marine Scotland Science (MSS) are aware of any current eel fisheries in Scotland. In addition, since 1st January 2009 the operation of any eel fisheries has been made illegal. Therefore, as no fisheries exist, a lethal (as otoliths are required) sampling programme would impose undesirable mortalities on the populations that are being protected As such, while there will continue to be studies carried out of a non-lethal nature to study the state of the populations, it is not planned to carry out sampling as required under Appendix IV (for the metier related to glass eel fishing) and Appendix VII (species sampling specifications) of the DCF.

England

In 2012 intensive, eel-specific electrofishing surveys were conducted in 13 basins, yielding more accurate estimates of survey site population biomass, density and length frequency

distributions. The yield of silver eel was estimated from the rivers Stour, Fowey, Huntspill and Leven. These data were applied in the 2012 eel stock assessments reported in the Eel Management Plan progress report to the EU Commission. Alan Walker conducted the data analysis and leads the authorship of the “Report on the eel stock and fishery in the UK 2011/2012” for the 2012 joint EIFAAC/ICES WG on Eel (WGEEL). The full reference is provided below. This took the 5 days that we have claimed for Staff NA Eels.

Walker, A.M., Aprahamian, M.W., Godfrey, J., Rosell, D. & Rosell, R. (2012) Report on the eel stock and fishery in the UK 2011/2012, 58 pp.; attached to the “Report of the 2012 Session of the Joint EIFAC/ICES Working Group on Eels (WGEEL), 3-9 September 2012, Copenhagen, Denmark, ICES CM 2011/ACOM:18, 828 pp.”
http://www.ices.dk/reports/ACOM/2012/WGEEL/wgeel_2012.pdf

Alan Walker attended the joint EIFAAC/ICES WG on Eel as the lead UK-delegate. The WG was held in Copenhagen, Denmark from 3rd to 9th September 2012. We have claimed for these 7 days, along with associated travel and subsistence costs.

Recreational fishing for eels in England

Legislation requires all freshwater eels caught recreationally to be returned alive to the water. This applies to freshwater and coastal waters to 6 nautical miles. Hence there is no recreational harvest to warrant an expensive nation-wide survey of the extensive catchment areas in England to estimate catches and 100% releases of eels.

Northern Ireland

DCF related eel work in Northern Ireland is carried out by the Agri-food and Bio-sciences Institute on behalf of the Department of Culture Arts and Leisure which is the competent authority for Inland Fisheries. Within N. Ireland eel sampling programmes, specified within eel management plans have been drawn up to satisfy the requirements of the EU eel regulation . As there is no significant recreational interest or tradition of rod-and line angling for eel in Northern Ireland the sampling programmes are tailored to the management structure of Northern Ireland’s remaining commercial eel fishery, and to a framework dictated by the three Eel Management Plan River Basin Districts. These are based on WFD RBD delineations, slightly modified to suit fishery management areas co-ordinated between N. Ireland and the Republic of Ireland (figure 3).

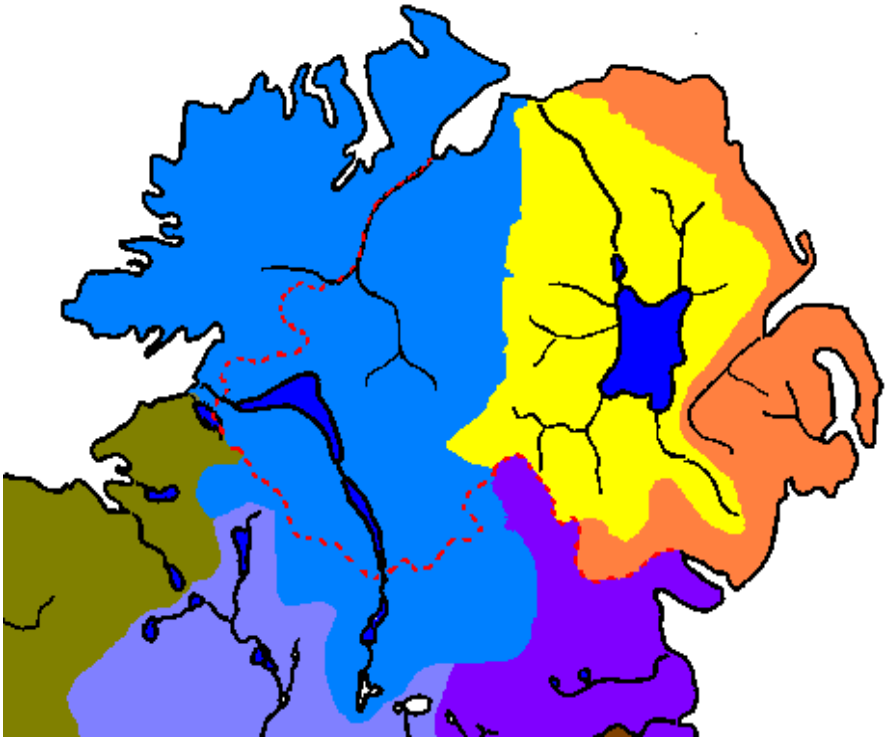


Figure 3. The Northern Ireland EMP regions; the North Western International RBD (blue), the Neagh Bann RBD (yellow) and the North Eastern RBD (orange). UK/Republic of Ireland border in red dashes.

The Northern Irish Eel Management Plans (EMPs) were agreed by the European Commission in March 2009 in conjunction with the other UK plans. Prior to 2009, sampling and surveys of eel fisheries were already active, anticipating the plans , with the result that there is a 10 year time series on some components.

All eel fishing ceased in the NE IRBD and the NI part of the NWIRBD with the enactment of new eel fishing regulations in May 2010. The only remaining open fishery is in the Lough Neagh/River Bann RBD, which was deemed at the submission of the management plan to be meeting the EU conservation target of 40% of pristine biomass of silver eel emigrating to sea. This single unit, system wide fishery with collective ownership by the Lough Neagh Fishermen's Co-operative Society Ltd (LNFCS) remains as one of the largest commercial wild eel fisheries in the EU. The central packing and marketing station operated by LNFCS probably represents the largest operation of its type remaining in Europe with throughput of 300-400 tonnes of eel per year.

The following work was carried out in 2012.

- Fishing for **glass eels** is not allowed in Northern Ireland, other than for the purposes of assisted migration to help stock the Lough Neagh system, where it is used to

supplement stocking by the purchase of glass eels from other sources. AFBI scientists monitor glass eel and elver traps and transport of the local recruitment of glass eel in the Bann estuary driven 40KM upstream to Lough Neagh.

- **Glass eels and elvers** – are sampled twice monthly from their arrival in March/April to July/August – 50 juveniles per sample are used to calculate numbers per Kg, length frequencies and estimate recruitment values to the system.
- Recording of **glass eel** bought in by the Fishermen's' co-operative from sources outside Northern Ireland and stocked to Lough Neagh. These fish are inspected as they arrive by air freight and are stocked to the lake. 50 juveniles per sample are used to calculate numbers per Kg, length frequencies and estimate recruitment values to the system. Random samples of 1500 glass eels from those purchased are held under quarantine observation for 2-3 week periods with their condition and survival rates monitored. This was carried out on 3 deliveries in 2012
- **Yellow Eel** are sampled twice weekly from the LNFCS fishery at its collection and shipment facility. Samples consist of 10 eels per visit over 20 weeks from May to September. Samples are chosen to reflect all size ranges caught and are analysed for a variety of morphometrics including length, weight, sex and age.
- Each month during the active season (typically May-October), the entire un-graded landings of two **yellow eel** fishing crews (a daily catch per boat is typically 400-600 eels) are measured for length. One ungraded catch is measured from each of the 2 gear types used: either a baited long line or an open water Draft (Seine) net.
- Silver eels – From October to December: at intervals dependent on the variable timing of silver eels migrating from Lough Neagh, an entire nights catch (or a minimum of 400 silver eels) are measured for length.
- Throughout the silver eel fishing season a total of 100 silver eels (50 male 50 female) are sampled representing the range of sizes caught and sacrificed for a variety of morphometric analyses including age measurement and fat content.
- To estimate the escapement of silver eel from Lough Neagh, Eels are purchased from the silver eel fishery, marked with Floy ™ tags, taken back upstream above the silver eel fishing weirs and released into Lough Neagh. Recaptures in the fishery inform an annual assessment of escapement from Lough Neagh. This work has been ongoing for 9 years and is the major tool used to assess compliance with the management plan target. Improvements in methodology suggested by ICES reviewers during their assessment of the Lough Neagh RBD EMP have been considered and where practicable, implemented from 2010 onwards, including separate assessments where possible of the fishing efficiency of each of the two weirs. In 2012 a total of 532 silver eels were tagged for escapement estimation.

- A pilot experiment was carried in 2011 out with acoustic tags to assess the potential of this technology for independent verification of the Floy $^{(R)}$ tag based estimates of silver eel escapement past the fisheries at Toomebridge. 30 large Eels were purchased from the fishery, taken back upstream and released at several points in Lough Neagh. Optimum distances and locations have been identified for further work on the 2012 silver eel run. In 2012, 60 acoustically tagged silver eels were released and tracked using The VEMCO$^{(R)}$ system.. A larger batch (100 fish) of Floy(R) tagged eels

released simultaneously with the acoustically tracked eel matched their performance and confirmed the result.

- **Northern Ireland - Eels under the EU eel regulation, outside of Lough Neagh**

The eel population of the cross-border UK/Ireland Lough Erne system is assessed under the UK/Ireland North Western International River Basin District Eel Management Plan. On ratification of the NWIRBD EMP in March 2010 all commercial eel fishing became illegal in the Erne System and the fishery closed in May 2010. The focus from 2010 onward has been the establishment of a conservation fishery to catch emigrating silver eel before these become entrained in one of two Hydro electric power stations at the exit of the River Erne. This continued in 2012, with former commercial fishermen catching a total of 26.3 Tonnes of emigrating silver eel. These were transported by tanker past the two hydropower stations to the estuary. This work is funded by the RoI Electricity Supply Board and monitored by NI and RoI Fisheries Staff, including AFBI. Data is reviewed and escapement assessed by a joint UK/RoI scientific group. (The Standing Scientific Committee on eel or SSCE), at which AFBI is represented by a Principal Scientist).

The Northern Ireland DCF eel sampling programme generates data which feeds into the annual UK National report submitted to ICES WGEEL. Northern Ireland provides two representatives to WGEEL. Further detail of eel work in NI is reported in the 2011 ICES WGEEL report.

Summary Table of SALMON and EEL DCF Staff Grade/Time Expenditure, Northern Ireland

Project	AFBI Cost code(s)	Staff Grade and ID	Grade hourly cost inc N.Ins and Pension	Hours accounted for	Total Basic staff cost
Lough Neagh + other RBD management plan eels	42050 + 44712	PSO1	32.5	325.5	£10,571
		SSO3	24.9	985.0	£24534
		TASO10	11.98	1726	£20673
		TASO11	11.98	422	£5054
		Total eels			£60,832.7
		PSO1	32.29	209.75	6773.298

NI salmon Management Strategy + marine and Freshwater survival indices	41910 + 41417	SSO1	25.56	1228.33	31395.6
		SSO2	23.33	1517	35396.87
		HSO1	20.34	1638.26	33319.48
		SO1	17.33	1611.83	27928.77
		SO1	17.39	1672.67	29088.23
		SO2	16.06	1082.41	17384.55
		ASO1	14.49	827.92	11996.56
		ASO2	12.24	1536.42	18803.5
		TASO1	11.98	279	3341.25
		TASO2	11.98	137	1642.67
		TASO3	11.98	1692	20272.48
		TASO4	11.98	115	1383.5
		TASO5	11.98	68	814.05
		TASO6	11.98	277	3312.9
		TASO7	11.98	313	3748.03
		TASO8	11.98	213	2551.5
		TASO9	11.98	1479	17720.03
		Total salmon			£266873.3
Totals all DCF Related Salmon and Eel Projects					£327,706

ANNEX 3 – (1) CURRENT BILATERAL AGREEMENTS (2) DEROGATIONS AND (3) TABLE OF STECF RECOMMS

Bilateral Agreement between the UK (Cefas) and Belgium (ILVO-Fisheries) for the collection of length and age samples in accordance with EC Regulation 665/2008, laying down detailed rules for the application of Council Regulation (EC) 199/2008, and its Commission Decision 2010/93/EU.

Agreement:

The UK and Belgium have agreed that samples of fish landed by Belgian vessels into the UK and transported for first sale into Belgium will be sampled upon arrival in the Belgian auctions by ILVO - Fisheries as part of the Belgian National Programme under the requirements of the EC Data Collection Framework (199/2008). The eventual additional sampling costs will be covered within the Belgian National Sampling Programme from 2011-2013. This agreement builds on the practice which has been already adopted and carried out since 2004.

In addition Belgium has agreed to provide age determination for all turbot (*Psetta maxima*) and brill (*Scophthalmus rhombus*) otoliths collected by the UK as part of the UK National Programme. In return the UK (Cefas) will undertake the age determination of VIIa cod (*Gadus morhua*) otoliths collected as part of the Belgian National Programme.

Description of sampling:

Landings: - Sampling will be for length and age of landings, sampling will be carried out in accordance with the Belgian National Sampling Programme.

Age determination: - Sampling will be carried out at the levels required within the National Sampling Programmes of UK and Belgium.

Sampling Intensity:

Levels and coverage at the metier level will be as agreed at the annual co-ordination meetings of RCMs NS&EA and NA.

Data responsibility:

Both countries will be responsible for submitting the data to the relevant ICES Expert Groups, and to the EC under the requirements of its Data Collection Framework. The aged samples are to be made available for the deadlines required by the relevant ICES Expert groups, and the EC.

Contact persons:

In the UK (Cefas) S Warnes: - steve.warnes@cefas.co.uk

In Belgium (ILVO-Fisheries) : els.torreele@ilvo.vlaanderen.be

CMoB 31.3.14

Signatures:

For UK (Cefas)

Carl O'Brien

Fisheries Division Director

Date: 31.3.10

For Belgium (ILVO-Fisheries)

Kris Cooreman

Scientific Director ILVO-Fisheries/National Correspondent

Date:

Bilateral Agreement between the UK (CEFAS) and Netherlands (Centre for Fisheries Research) for the collection of length and age samples in accordance with EC Regulation 665/2008, laying down detailed rules for the application of Council Regulation (EC) 199/2008, and its Commission Decision 2010/93/EU.

Agreement:

(1) Landings and discards by Anglo-Dutch vessels fishing on the UK register, which land for first sale into the Netherlands, will be sampled as part of the Netherlands National Programme under the requirements of the EC Data Collection Framework (199/2008). This agreement builds on the practice which has been already adopted and carried out by the Netherlands since 2000. The eventual additional sampling costs will be covered within the Netherlands National Sampling Programme from 2011 onwards.

(2) Scallops landed by Dutch vessels fishing for Scallops in area VII which land for first sale in the UK will be sampled for biological parameters as part of the UK National Programme from 2011 onwards. The eventual additional sampling costs will be covered within the UK National Sampling Programme from 2011 onwards.

(3) The Netherlands holds the obligation to sample bass for biological parameters triennially. The age reading of these samples will be carried out by CEFAS. This agreement builds on the practice which has been already adopted and carried out by the UK since 2006

(4) Landings and discards by Anglo-Dutch vessels fishing on the UK register, participating in metier OTM_SPF>=40_0_0 in the CECAF region, will be sampled as part of the Netherlands National Programme under the requirements of the EC Data Collection Framework (199/2008) for 2012 and 2013.

Description of sampling:

(1) The sampling will be for length and age of discards and landings, sampling will be carried out in accordance with the Netherlands National Sampling Programme.

(2) The sampling will carried out in accordance with the UK National Sampling Programme

(3) Not relevant

(4) The sampling will be for length and age of discards and landings, sampling will be carried out in accordance with the Netherlands National Sampling Programme.

Sampling Intensity: (1) & (2) Levels and coverage as agreed at the annual meeting of RCM NS&EA and NA. (4) Levels and coverage as agreed at the annual meeting of RCM LDF

Data responsibility:

(1) The Netherlands is responsible for submitting the data to the relevant ICES Expert Groups, and to the EC under the requirements of its Data Collection Framework. The Netherlands will provide the required data for the species that are requested by the relevant ICES Expert Groups, and the data for the additional species to the UK as and when requested.

(2) The UK is responsible for submitting the data to the relevant ICES Expert Groups, and to the EC under the requirements of its Data Collection Framework. The UK will provide the required data for the species that are requested by the relevant ICES Expert Groups, and the data for the additional species to the Netherlands as and when requested.

(3) Not relevant.

(4) The Netherlands is responsible for submitting the data to the relevant ICES Expert Groups, and to the EC under the requirements of its Data Collection Framework. The Netherlands will provide the required data for the species that are requested by the relevant ICES Expert Groups, and the data for the additional species to the UK as and when requested

Contact persons:
In The Netherlands: Sieto Verver (sieto.verver@wur.nl)
In UK: Steve Warnes (steve.warnes@cefas.co.uk)

Signatures:

For CEFAS	For CVO
	
Carl O'Brien	Sieto Verver
Defra Chief Fisheries Science Adviser	Dpt. Head Centre for Fisheries Research
CEFAS	CVO
Date: 12-10-2011	Date: 12-10-2011

Bilateral Agreement between the UK (Cefas) and Germany (vTI-SF) for the collection of length and age samples in accordance with EC Regulation 665/2008, laying down detailed rules for the application of Council Regulation (EC) 199/2008, and its Commission Decision 2010/93/EU

Agreement:

Fishing activities of UK vessels in ICES Sub-Area I & II, which land for first sale into Germany, will be covered within the German National Programme under the requirements of the EC Data Collection Framework (199/2008). Sampling costs will be included within the German National Sampling Programme from 2011- 2013.

Description of sampling:

These UK vessels are operating in the same metier as the German fleet and follow the same practices. Sampling for length and age of landings will be covered in accordance with the German National Sampling Programme. The metier is sampled by onboard observers.

Sampling Intensity:

Levels and coverage at the metier level will be as agreed at the annual co-ordination meeting of RCM NS&EA.

Data responsibility:

Germany will be responsible for submitting the data to the relevant ICES Expert Groups, and to the EC under the requirements of its Data Collection Framework. Germany will provide the required data for the species that are requested by the relevant ICES Expert Groups, and the data for the additional species to the UK as and when requested.

Contact persons:

In the UK (Cefas): S. Warnes: steve.warnes@cefas.co.uk

In Germany (vTI-SF): K. Panten: kay.panten@vti.bund.de

Signatures:

For UK (Cefas)

Carl O'Brien

Fisheries Division Director

Date: 8th March 2010

For Germany (vTI-SF)

C. Stransky

Dr. Christoph Stransky

German National Correspondent

19 March 2010

Johann Heinrich von Thünen-Institut
Bundesforschungsinstitut für
Ländliche Räume, Wald und Fischerei
Institut für Seefischerei
Palmaille 9 • 22767 Hamburg

Marine Institute
Foras na Mara

Bilateral Agreement between the Marine Institute Ireland and Marine Scotland (for the collection of length, maturity and age samples in accordance with EC Regulation 665/2008, laying down detailed rules for the application of Council Regulation (EC) 199/2008, and its Commission Decision 2008/949/EC.

Agreement: Twenty five vessels fishing on the Irish register, which operate and / or land into the UK for first point of sale will be sampled as part of the 2011-2013 National Programme under the requirements of the EC Data Collection Framework (199/2008). A portion of these vessels land into Scotland. The eventual additional sampling costs will be covered within the Scottish National Sampling Programme from 2011

Description of sampling: The sampling will be for length maturity and age of Demersal and Pelagic landings, sampling will be carried out in accordance with the Scottish National Sampling Programmes.

Sampling Intensity: Sampling intensity will be in accordance with the guidelines set down by Commission Decision 2008/949/EC.

Data responsibility: Scotland is responsible for submitting its data to the relevant ICES Expert Groups, and to the EC under the requirements of its Data Collection Framework. Scotland will provide the required data for the species that are requested by the relevant ICES Expert Groups, and will forward any data collected from Irish registered vessels and sampled by Scotland to the relevant Irish scientists.

ALSO:

Agreement: A portion of forty five vessels fishing on the UK register, which operate and / or land for first sale into Ireland, will be sampled as part of the 2011-2013 National Programme under the requirements of the EC Data Collection Framework (199/2008). The eventual additional sampling costs will be covered within the Irish National Sampling Programme from 2011- 2013.

Description of sampling: The sampling will be for length maturity and age of Pelagic landings. Sampling intensity will be in accordance with the guidelines set down by Commission Decision 2008/949/EC.

Sampling Intensity: Sampling intensity will be in accordance with the guidelines set down by Commission Decision 2008/949/EC.

Data responsibility: Ireland is responsible for submitting its data to the relevant ICES Expert Groups, and to the EC under the requirements of its Data Collection Framework. Ireland will provide the required data for the species that are requested by the relevant ICES Expert Groups, and will forward any data collected from Scottish registered vessels and sampled by Ireland to the relevant Scottish scientists.

Landings of Scottish vessels into Ireland and landings of Irish vessels into Scotland are obviously subject to change over the period of this bi lateral agreement and will need to be monitored on an on - going basis.

Contact persons: frank.obrien@marine.ie National Correspondent

Marine Institute, Ireland

Signed:

Date: 18/3/10

Marine Institute
Foras na Mara
Rinville
Oranmore Galway
Tel: 353 91 387 200
Fax: 353 91 387 201
Email: institute.mail@marine.ie

Scotland (Marine Scotland)

Signed: Margaret Bell

Date: 23/3/10

marinescotland
Marine Laboratory
The Scottish Government AB11 9DB

Bilateral Agreement between University of Agricultural Sciences (SLU), Institute of Marine Research Sweden and Marine Scotland (Science), United Kingdom for the collection of length and age samples in accordance with EC Regulation 665/2008, laying down detailed rules for the application of Council Regulation (EC) 199/2008, and its Commission Decision 2010/93/EU

Mackerel is one stock were the sum of MS having a share of quotas/landings less than 10%, altogether exceeds 25%. In Area IV, Sweden has an average landings of mackerel of 4 475 tonnes (< 1 % of the EU TAC) and where approximately 77 % of the Swedish landing is taken place in UK. In area IIIa, average landings of 160 tonnes, which is below the threshold for sampling. It has been agreed that in some cases it would be perfectly acceptable that sampling by MS for these stocks may not be necessary (RCM NS& EA 2010).

Agreement:

While mackerel is managed as one stock (II, IIIa, IV, V, VI, VII, VIII, IX) it has been agreed that the stock is well covered concerning biological samples, by the United Kingdom Marine Scotland National Programme under the requirements of the EC Data Collection Framework (199/2008). This agreement will be on-going during 2012 and 2013 and will be reviewed for the 2014 National Proposals.

Description of sampling:

The sampling will be carried out in accordance with the UK (Scotland) National Sampling Programme.

Data responsibility:

The United Kingdom will submit all data to the relevant ICES Expert Groups, and to the EC under the requirements of its Data Collection Framework.

Contact persons:

In Sweden (SLU):	Maria Hansson: maria.hansson@slu.se
In United Kingdom:	Margaret Bell: m.bell@marlab.ac.uk / Margaret.bell@scotland.gsi.gov.uk

Signatures:

For Sweden (SLU)	For United Kingdom (MS-S)
Maria Hansson	Margaret Bell
Sweden National Correspondent	DCF manager (Scotland)

Date: 1 January 2012

Verbal agreement for length and age sampling with non EU country.

Scotland UK and Norway have a verbal agreement that Norway will provide biological data of samples taken from Scottish boats fishing in Norwegian waters or in ICES areas I and II.

Verbal agreement for length and age sampling with EU country.

Scotland UK has a verbal agreement with Denmark to rescind the bilateral agreement between the two MS, which has been in place for three years, regarding the sampling of blue whiting. It has been agreed that the need for the bilateral can be re-instated at any time, depending on the changing pattern of the fishery landing ports. This was discussed at the NS RCMs 2011 and 2012.
Scotland UK has an agreement that Sweden will age witch flounder otoliths collected from Scottish samples.

DEROGATIONS

Species	Region	RFMO	Area / Stock
Mallotus villosus	North Sea and Eastern Arctic	ICES	I,II
Crangon crangon	North Sea and Eastern Arctic	ICES	IV, VIId
Nephrops norvegicus	North Sea and Eastern Arctic	ICES	IV FU05
Nephrops norvegicus	North Sea and Eastern Arctic	ICES	IV FU10
Aphanopus spp	North Atlantic	ICES	V, VI, VII (excluding d), VIII, IX, X, XII, XIV
Centroscymnus coelolepis	North Atlantic	ICES	V, VI, VII (excluding d), VIII, IX, X, XII, XIV
Coryphaenoides rupestris	North Atlantic	ICES	V, VI, VII (excluding d), VIII, IX, X, XII, XIV
Molva dypterygia	North Atlantic	ICES	V, VI, VII (excluding d), VIII, IX, XII, XIV

Octopus vulgaris	North Atlantic	ICES	V, VI, VII (excluding d), VIIIabde, IXb, X, XII, XIV
Phycis blennoides	North Atlantic	ICES	V, VI, VII (excluding d), VIII, IX, X, XII, XIV
Sebastes marinus	North Atlantic	ICES	V, VI, XII, XIV, SA 2+ (Div. 1F+3K)
Gadus morhua	NAFO areas	NAFO	SA 1
Sardina pilchardus	CECAF FAO 34	CECAF	All areas
Sardinella aurita	CECAF FAO 34	CECAF	All areas
Sardinella aurita	CECAF	All areas	G1

(3) TABLE OF STECF RECOMMENDATIONS AND UK COMMENTS

Recommendation	Comment
"The CR includes commitments for Member States to develop and implement sampling plans for vessels not subject to logbook requirements and landing declarations. STECF recommends that when Member States develop the sampling plans, due notice is taken to the data requirements under the DCF. This could be done by actively involving at national level, the DCF experts in the development of the sampling plans."	**UK comment:** All registered commercial fishing vessels of 10m LOA and over in the UK are required to submit EU logbooks. The catches of smaller vessels which do not submit EU logbooks are recorded exhaustively from sales notes, as required by the Registration of Buyers and Sellers legislation. Such data are supplemented by estimates of fishing effort based on knowledge local staff have of the activities carried out by each local vessel (e.g. gears used, patterns of fishing activity etc.)
"STECF recommends that the roles of the institutions involved in the collection and analysis of transversal data should be discussed and clearly defined in a dialogue	**UK comment:** For the former the work under the DCF in the UK is coordinated by the MO, the control and enforcement

between all relevant parties, i.e. research institutes, control & enforcement agencies and fishing industry representatives. Furthermore, efforts should be made to ensure that the data needs of end-users are being considered in the new DCF."	agency for activity within EU waters. The MMO is also the UK competent authority as required under Article 5, para 5 of th Control Regulation (Council Regulation (EU) No. 1224/2009:
STECF: in each Member State, a single authority shall coordinate the control activities of all national control authorities. It shall also be responsible for coordinating the collection, treatment and certification of information on fishing activities and for reporting to, cooperating with and ensuring the transmission of information to the Commission, the Community Fisheries Control Agency established in accordance with Regulation (EC) No 768/2005, other Member States and, where appropriate, third countries.	**UK comment:** As such the MMO is able to coordinate and facilitate with counterparts in other fisheries administrations in the UK to ensure the availability of data as required.
STECF: In response to the request for guidance from the EWG 12-03, STECF recommends that the economic performance indicators are based on the macroeconomic approach at the society level, instead of having the current mixture of macro- and microeconomic indicators, which could potentially lead to confusion. ***Following this, STECF thus recommends that the indicators of Gross Value Added and economic profit are calculated without including the cost/income from TCF transfers, and that instead of including the Operating Cash Flow calculations, these should be substituted with an indicator for Gross Profit being calculated as:*** ***Income from landings + other income – [crew costs + opportunity cost of unpaid labour + energy costs + repair costs + other variable costs + non variable costs]*** ***STECF recommends that two cases are analysed based on different levels of the theoretical maximum number of days at sea in order to illustrate how this influence the results.***	**UK comment:** See comments in section III.B.3. Several of these recommendations are applicable to the guidelines planned for Member States to follow in the production of the annual reports on the balance between fleet capacity and fishing opportunities. It is assumed that these recommendations will be incorporated into the revised guidelines for Member States that are to be issues by the Commission. (Note – these guidelines were expected earlier this year (2013) but their release has been postponed – latest communication received on 31st May 2013.)

STECF recommends that the maximum number of days at sea is set as: ***1) the vessel using most days*** ***2) the average of the top 10% most active vessels*** ***For the selected fleets, STECF recommends that an explanation is given on whether any management limitations could potentially influence the maximum level. STECF recommends that any analysis of overcapacity includes a clear description of how the results should and should not be interpreted, also clearly stating the methodology with all the various caveats and limitations.*** ***STECF recommends that the number of chapters of special interest this year is considered once more by the chair and the Commission in light of the STECF observations and conclusions above. Having three chapters instead of normally only one implies increased work for the EWG, and this could potentially threaten finalisation of the report before the STECF summer plenary.*** ***STECF recommends that priority is given to completing the standard chapters.***	

Overview of selectivity of gears used in EU fisheries STECF recommends that a more detailed analysis of discard data gathered under the Data ***Collection*** Framework should be undertaken to provide a quantitative rather than a qualitative assessment and this analysis be used to identify the level of discards for the aggregated fleets.	**UK comment:** All discards data requested by end users including STECF and ICES are provided by the UK in a form that allows a quantitative evaluation of discard rates.
STECF reiterates its previous recommendation from PLEN 11-03, that a study be undertaken to focus on the disaggregation of economic data below the fleet level to subareas and/or métiers, which, for instance, is relevant in relation to future needs for impact assessments and evaluation of management plans, and also when addressing ecosystem based management.	**UK Comment** – the UK would support such a study. A disaggregation of economic data below the level of DCF segmentations is carried out as part of assessing the impact of various management plans – e.g. The cod and sole recovery regimes
STECF recommends that FPAs be based on management plans, which should include management objectives, harvest control rules, TAC or effort allocation keys and should be supported by data collection programs, scientific advice and monitoring. ***For practical purposes STECF recommends that in the context of FPAs, the estimated surplus should be used to allocate the EU fleet's share of a TAC or effort arising from a management plan.***	**UK Comment**: It is assumed that this recommendation is addressed to the Commission in light of their central role in the negotiation of such agreements.